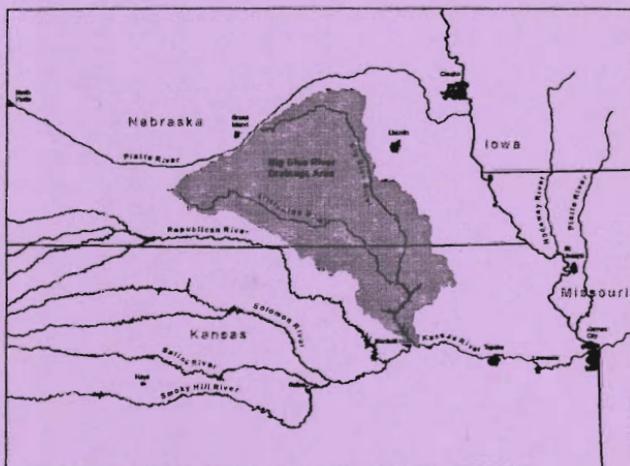


# KANSAS-NEBRASKA BIG BLUE RIVER COMPACT

## THIRTY-THIRD ANNUAL REPORT



FISCAL 2006

BEATRICE, NEBRASKA  
MAY 11, 2006

**KANSAS-NEBRASKA BIG BLUE RIVER  
COMPACT ADMINISTRATION**

The Honorable George W. Bush  
President of the United States

The Honorable Kathleen Sebelius  
Governor of Kansas

The Honorable Dave Heineman  
Governor of Nebraska

Pursuant to Article VIII, Section 1 of the Rules and Regulations of the Kansas-Nebraska Big Blue River Compact Administration, I submit the Thirty-Third Annual Report. The report covers activities of the Administration for Fiscal Year 2006.

Respectfully,

A handwritten signature in black ink, appearing to read "Gary Mitchell", written in a cursive style.

Gary Mitchell  
Compact Chairman

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**KANSAS – NEBRASKA BIG BLUE RIVER  
COMPACT ADMINISTRATION  
33<sup>rd</sup> ANNUAL MEETING**

May 11, 2006  
10:00 a.m.

Lower Big Blue Natural Resources District Office  
805 Dorsey Street  
Beatrice, Nebraska

1. Call to Order
2. Introductions
3. Approval of Minutes from 32<sup>nd</sup> Annual Meeting
4. Chairman's Report
5. Nebraska Report
6. Kansas Report
7. Federal Agencies Reports
8. Secretary's Report
9. Treasurer/Budget Report
10. Legal Committee Report
11. Engineering Committee Report
12. Water Quality Committee Report
13. Old Business
14. New Business
  - a. Augmentation Study Update
  - b. Patterson Resolution
15. Adjourn

## 2005-2006 MEMBERSHIP

### Representative of the United States

Gary Mitchell

#### Kansas Representatives

David Pope, Topeka <sup>1</sup>

Sharon Schwartz, Washington <sup>2</sup>

#### Nebraska Representatives

Ann Bleed, Lincoln <sup>1</sup>

Kenneth Regier, Aurora <sup>3</sup>

## 2005-2006 OFFICERS

Gary Mitchell, Chairman

Debra Hayes, Secretary

Jeff Shafer, Treasurer

## 2005-2006 COMMITTEES

#### Budget Committee

Jeff Shafer, Chairperson

Bob Lytle

#### Engineering Committee

Jeff Shafer, Chairperson

Keith Paulsen

Bob Lytle

Katie Tietsort

#### Legal Committee

Leland Rolfs, Chairperson

Ann Diers

#### Water Quality Committee

Dale Lambley, Chairperson

Tom Stiles

Annette Kovar

Rich Reiman

Pat Rice

- 
- 1 Term continuous but coincides with duties of the state official who administers water law.
  - 2 Term expires April 5, 2008.
  - 3 Term expires September 19, 2006.

**MINUTES OF  
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION  
THIRTY-THIRD ANNUAL MEETING**

**Call to Order**

The Kansas-Nebraska Big Blue River Compact Administration 33<sup>rd</sup> annual meeting was held May 11, 2006, at the Lower Big Blue Natural Resources District Office in Beatrice, Nebraska. The meeting was called to order at 10:00 a.m. by Gary Mitchell, Compact Chairman.

**Introductions**

Introductions of attendees were made. Those in attendance were:

Gary Mitchell	Compact Federal Representative and Chairman
Ann Bleed	Compact Commissioner from Nebraska; Acting Director, Nebraska Dept. of Natural Resources
Ken Regier	Compact Citizen Advisor from Nebraska; Board of Directors of Upper Big Blue Natural Resource District
Representative Sharon Schwartz	Compact Citizen Advisor from Kansas; State of Kansas Representative
David Pope	Compact Commissioner from Kansas; Chief Engineer, Kansas Dept. of Agriculture, Division of Water Resources
Dan Howell	Member of the KLR/BAC
Paul Graves	Assistant Chief Engineer, Kansas Dept. of Agriculture, Division of Water Resources
Debra Hayes	Compact Secretary; Executive Secretary to the Chief Engineer, Kansas Dept. of Agriculture, Division of Water Resources
Katie Tietsort	Engineering Committee of the Compact; Water Commissioner, Topeka Field Office, Kansas Dept. of Agriculture, Division of Water Resources
Dale Lambley	Chair of the Water Quality Committee of the Compact; Kansas Dept. of Agriculture
Bob Lytle	Budget Committee and Engineering Committee of the Compact; Kansas Dept. of Agriculture, Division of Water Resources
Dave Clabaugh	Manager, Lower Big Blue Natural Resource District
Mike Onnen	Manager, Little Blue Natural Resource District
Steve Gaul	Nebraska Dept. of Natural Resources

Tom Stiles	Water Quality Committee of the Compact; Kansas Dept. of Health and Environment
Phil Soenksen	U.S. Geological Survey
Ken Brockman	Chairman, Board of Directors, Lower Big Blue Natural Resource District
John Turnbull	Manager, Upper Big Blue Natural Resource District
Keith Paulsen	Engineering Committee of the Compact; Lincoln Field Office, Nebraska Dept. of Natural Resources
Ann Diers	Legal Committee of the Compact; Legal Council, Nebraska Dept. of Natural Resources
Jeff Shafer	Compact Treasurer; Budget Committee and Engineering Committee of the Compact; Nebraska Dept. of Natural Resources

### **Minutes of the 32<sup>nd</sup> Annual Meeting**

Chairman Mitchell asked for corrections, additions and/or comments on last year's minutes.

These corrections were noted:

On page 4, the 3<sup>rd</sup> paragraph that reads "At last year's meeting the passage of Nebraska's new water law, LB 962 was reported. It went into effect on July 16<sup>th</sup> 2003" should read that it went into effect on July 16<sup>th</sup> 2004.

The paragraph under Legislation on page 4, the second to the last line that reads "...recommendation that will be developed by DNR's Water Quality Task Force" should be Water Policy Task Force.

The last line of the minutes on page 11 is missing the word job after the word "good."

The minutes were approved, with the corrections to be noted in this year's minutes.

### **Report of the Chairman**

Chairman Mitchell had no report.

### **Nebraska Report**

Commissioner Bleed gave the Nebraska report

There were some periods of administration for the Compact on the Big Blue River. It was the third time this was done. There was administration on the Little Blue River. It was the fifth time this happened. The previous years of administration were 1988, 1991, 2002, and 2004.

Nebraska did not administer the groundwater wells for the Compact.

The Nebraska Platte-Republican Resources Area Conservation Reserve Enhancement Program (CREP) contract was signed with the Federal government. To date there are about 52,000 acres that have been offered for enrollment out of a possible 100,000. Of these, most are in the Republican Basin, but some are in the Platte River Basin above Lake McConaughy. The new contracts had created a tremendous workload burden for Nebraska Dept. of Natural Resources (NDNR) staff.

As far as interstate water issues are concerned, it continues to be dry. The Missouri Basin is in its seventh year of drought. May run-off forecast is above 21 million acre-feet, which is better than it's been, but still only 83% of normal. System storage is also below normal.

There is a continued drought on the Platte River. A major issue Nebraska faces in the near future is whether to sign off on the Platte River Recovery and Implementation Program with the states of Colorado, Wyoming, and Nebraska and the Federal government. The program theoretically would be implemented in October of 2006. Colorado and Wyoming are prepared to sign. Nebraska's Governor is still reviewing it. He is inclined to sign, but wants to get input from the citizens in the Basin first.

The Republican River Basin continues to be very dry. Nebraska is working very hard to be in compliance with the Republican River Compact. Three million dollars was spent to buy surface water supplies that exist from surface water irrigators to provide water into Harlan County Reservoir and water to the Kansas Bostwick. It is a one-year, one-time commitment. NDNR is also working with the Natural Resources Districts (NRDs) to ensure compliance with management plans and looks forward to the future and what needs to be done to comply with the Compact. The drought has been a considerable challenge in the Republican Basin..

Another concerning issue has been the implementation of LB 962, which is the Integrated Management Law that was passed into law in 2004. There are a number of NRDs in the western part of the state that are fully, or have portions over-appropriated, and NDNR is now working with those districts to put together integrated management plans with the involvement of stakeholders and other public interest groups in the Basin to deal with the fully and over-appropriated areas. The plans are moving ahead. In the Republican Basin the plans are already in place. It was fast-tracked because of the Compact. Under the law NDNR must determine which basins in the future should be considered fully appropriated. An annual report must be issued to make the determination. The first report was issued January 1, 2006. Jeff Shafer was one of the key authors of that report. No new basins were determined to be fully appropriated; however, certain areas were determined to be hydrologically connected to an existing fully appropriated area, particularly in Tri-Basin and the Upper Big Blue Basin. The Upper Big Blue NRD did not agree with NDNR's determination and filed a lawsuit in District Court, stating that the Acting Director of NDNR exceeded her authority in determining that they were hydrologically connected and asking for moratoriums on usage.

## Legislation

This year most legislative bills were to clean up, correct mistakes in, or add to the LB 962 Integrated Management Law. The major issue being discussed is the 2.5 million dollars per year for the NRDs for the next two years to help them implement the Integrated Management or the Groundwater Management planning process. The bill will also allow the NRDs to raise their mill levy in areas that are fully or over-appropriated to deal with the extra burdens involved in implementing the Integrated Management plans. The mill levy for the first year (FY 06/07) could be raised three cents per \$100 evaluation. This would be throughout the whole district, not just in the areas that are considered fully or over-appropriated. In FY 07/08 and 08/09, it could be raised two cents.

At the conclusion of Commissioner Bleed's report, Commissioner Pope asked Commissioner Bleed to elaborate a little more on the current status of the CREP program, now in its second year. He asked if it was locally controversial in regard to the concern about land being taken out of production and replaced with grass. Commissioner Bleed stated that the program is just getting started, as far as implementation. This is the first year that people actually have had a signed contract and now will not be irrigating. The biggest problems were just getting the contracts in place. The local FSA offices are not experienced at working with water rights. Because it is a property right, it has to be properly mapped and properly located so that the money is not being paid for areas that aren't under a water right. It is required that in order for an irrigator to get money, they have to have a valid water right for the area they were getting the money for. That has proved difficult in terms of mapping and getting the FSA maps and the NDNR maps in agreement. There had to be training for both the FSA offices and NDNR staff to work through that issue. It is working smoothly now.

In terms of the reaction from irrigators, there are a lot of concerns in taking land out of production. One of the key things that was in the CREP contract, which is a temporary contract for 10 - 15 years, was that the expectation was that the land would stay on the tax rolls as irrigated land with the contract funds to be sufficient to cover the irrigators tax requirements. However, it is up to each county to determine how they assess the land. It is believed that most of the land was kept on the tax rolls, but NDNR has no control over that. Another issue was the lack of money coming in to the community, i.e. the implement dealer, the fertilizer and seed dealer, etc. Some of the insurance agencies are concerned because they aren't getting insurance money on that land. NDNR's response has been that sooner or later irrigation was going to be reduced, so at least this is providing some money back in to the community from the CREP payment. The other issue is that in many cases there are landowners that live out of state, so the landowners get the payments, the renter loses their land, and none of the money is going back to the local economy. These issues were not addressed in Nebraska's CREP contracts.

Commissioner Pope also asked about the 2.5 million dollars per year allocated to the NRDs for the planning aspect of developing the Integrated Management plans and if it would be used for incentive plans. Commissioner Bleed stated that the law was open and that the money could be used for meters, additional staff, technical studies, and other incentive plans. But Commissioner Bleed stated she didn't think the money would be used for incentive plans.

In response to a question from Representative Schwartz about incentives to use less water, Commissioner Bleed said that there has been a lot of discussion about that in Nebraska. NDNR is working with the NRDs and NRCS to do an EQIP program. There was one before for temporary EQIPs, but they are looking for one for a permanent retirement under an EQIP program with NRCS in the Republican Basin. They could still dry land farm that way. Part of the reason for the increase mill levy with LB 962 is that the NRDs are looking at putting money into an incentive program to help retire acres. There's been a lot of discussion of getting research from the universities to help irrigators figure out better ways to use their water, using less water while still maintaining their income.

Representative Schwartz asked if it was only agriculture interest groups being asked to reduce their consumptive use or if other interest groups in Nebraska have been involved. Commissioner Bleed stated that it is primarily agriculture, but part of the new bill was an exemption for cities in the fully and over-appropriated areas, and the cities over a certain size are required to put in a conservation plan so when times get dry they will be conserving water. The general feeling in Nebraska has been that the cities use a very small amount of the total water, so the focus is on irrigation.

#### **Water Administration**

Keith Paulsen continued the Nebraska submission with his report on water administration. He reported that there were shortages last year in both the Big Blue and Little Blue River Basins. The flows in the Little Blue River were insufficient to meet the demands of the Blue River Compact with Kansas for two periods last summer (2005). This resulted in the issuance of closing orders to those water irrigators junior to the Compact from July 11 through July 26, and again from August 8 through August 15. Additional storage of surface water in reservoirs in the Basin was also prohibited during these times of shortage.

Localized shortages on the upper end of the Big Blue River Basin began on July 12, and by July 13 the entire Basin was in administration to comply with state-line flow targets set out by the Compact with Kansas. Shortages remained in the upper end, but due to increased flows at the state-line, irrigators below the West Fork of the Big Blue River were open in three different increments. On July 19 NDNR opened through water right priorities of June 16, 1969. This action opened an additional 12 permits. On July 20 another 29 were opened, those with priorities up through December 31, 1970, and on July 21 another 102 permits were opened, those with priorities through December 31, 1972. On July 26 increased flows in response to rainfall allowed NDNR to open all diversions in the entire Basin.

Shortages in the Big Blue River Basin on August 4 also resulted in closures on the very upper end of the Basin, and by August 9 all irrigators junior to the Compact in the entire Basin were again closed until August 15. During shortages in the Big Blue River Basin, additional storage of surface water in reservoirs was not allowed.

The Basin is still in a drought coming into this next growing season and shortages are likely.

## Natural Resources Districts

**Lower Big Blue NRD.** Dave Clabaugh presented the Lower Big Blue NRD report (**Exhibit F**) that summarized what the NRD has done the past fiscal year from July to July and some of the programs the Lower Big Blue NRD administers.

Water Quality & Quantity. The report stated that last year 52 wells were abandoned with the well decommissioning program. The average cost to close a well in the District is \$356, with the District cost share being an average of 60% of that cost. The average cost share paid out was just over \$200. The majority of the wells were domestic wells or stock wells, but there were some irrigation wells also. Since the District started the decommissioning program in 1992, there have been 513 wells abandoned across the District. Along with the money the District puts in to the program, there are also state funds received through the Water Well Decommissioning plan.

Last year 62 permits were issued for new irrigation wells. Because there is a Groundwater Management area over the entire District, the District is required to issue a permit for any well that is going to pump 50 gallons per minute or more. Since 1997, when the NRD declared a Groundwater Management area, there has been 409 permits issued (average of 45 permits per year).

There were 59 wells measured across the district for groundwater levels. The Lower Big Blue NRD report details the findings.

The Lower Big Blue NRD also reads the Blue River Compact wells. They started out measuring 34 wells within a mile of the Big Blue River, roughly between Beatrice and the town of De Witt. They have cut back on those wells according with the Engineering Committee, reading 17 wells now. The readings are also noted in the report.

The Lower Big Blue NRD has entered into an agreement with the Upper Big Blue NRD for a groundwater model study on the western part of the District, basically west of the Big Blue River because the majority of their groundwater is located there. This agreement is to look at the interrelationship between ground water and surface water in the NRDs in regards to LB 962.

The Lower Big Blue NRD, Little Blue NRD, NDNR, and the Bureau of Reclamation have a memorandum of understanding on stream flow augmentation for the Blue River Basin. They will be looking at how much water is needed to meet the Compact flows, what the value of that water is, and ways to provide that water through outside storage, well pumping, rainmaking, etc.

Land Treatment. The area has a long time tremendous conservation ethic, having 70% of the land in the NRD treated to NRCS tolerable recommendations. That is a little over a million acres. As the report states, last year the NRD and State funds were \$171,263, but there were 201 applications requesting \$677,996. Only 75 applications could be approved with the limited funds. The district has never been able to satisfy the requests they get for the State money and the NRD money.

The Lower Big Blue NRD has just recently paid off two loans on watersheds from the '50s and '60s. One was the Cub Creek Watershed and the other one was the Mud Creek Watershed. The report says that Cub Creek Watershed has 24 flood control structures and Mud Creek has 18. The popular Rockford Lake, just east of Beatrice, is part of the original Mud Creek Watershed. That loan was taken out in 1962 for \$40,000.

**Flood Control.** The Lower Big Blue NRD has 11 flood control projects completed. They control runoff from 34% of the District, or about 160,000 acres. There are about 253 dams in the 11 watersheds. Some of them were pilot projects from back in the '50s to the completion of Strong Creek in 1998. A number of the older structures are deteriorating, and the District has to maintain those. That could be a big expense in the future.

**Lower Turkey Creek Project.** This is a new project. The Lower Big Blue NRD was approved for funding through the Natural Resources Development Fund (NRDF) in November 2005. Turkey Creek starts in Geneva or Sutton in the Upper Big Blue NRD. This is the last major watershed in the District that does not have any flood control. The cost benefit ratio is about 6 to 1. The timeline scenario is to be in construction next year around this time, completing two of the seven structures a year. A map of the project is included in the report.

**Little Blue NRD.** Mike Onnen submitted a written report for the Little Blue NRD (**Exhibit G**). One thing new for the Little Blue NRD is that they signed up for a conservation easement for a wetland. They are involved extensively in the Rainwater Basin area of the District, where there are numerous wetlands. Many were converted years ago. The Little Blue NRD has a full time employee working under a grant they got from a joint venture of the Rainwater Basin and the Nebraska Game and Parks Commission.

The Little Sandy Creek Watershed Project is underway. The map on the first page of the report shows the location of the watershed. It is in the four corners of Jefferson, Thayer, Fillmore, and Saline counties. The blue area is the watershed structure being constructed right now, Dam Site 61. This is a project that was funded primarily with the Resource Development funds from NDNR, but there are also four other grants, mostly from Nebraska Game and Parks Commission for some of the recreation development, and one from Nebraska Dept. of Environmental Quality (NDEQ) for 319 Water Quality to help preserve the water quality in this recreation lake for the long term. There is one typo in the Watershed Project Construction section of the Little Blue NRD report. In the 4<sup>th</sup> sentence, the recreation land the District has is 160 acres, not 60 acres as is written.

The second page of the Little Blue NRD report has a list of specific changes in the District's Groundwater Management plan. As noted in the list, the District changed some triggers in Hydrologic Unit # 8. The map on the bottom of the page shows the hydrologic units that the District's board established a number of years ago with the first Groundwater Management plan. The aquifers have been broken in to regions that are more manageable, and also because of some of the hydrologic similarities that they have. In Hydrologic Unit # 8, Fairbury is the blotch in the east, on the right hand side of # 8. That aquifer extends from about Fairbury down to Chester. It is only about three miles wide and it is isolated from the remainder of the regional aquifers in the District. Most of the inflowing water to the aquifer is not coming

from recharge; it comes from the Belleville formation, which lies in Northern Republic County in Kansas. This aquifer has had some problems, and although there are triggers in place for each one of the Hydrologic units, there are still some concerns. The District's Management plan allowed the District to move a little quicker on that particular area.

The maps in Thayer and Jefferson Counties are 60 – 65 years old. The University Conservation and Survey Division is doing a lot of geological work for the District to try to determine the water in storage and the capacity of the aquifer, particularly in the southern part of Thayer and Jefferson Counties.

The last item of the report is regarding the Nebraska Rainfall Assessment and Information Network (NeRAIN). This year the remainder of the State was given a grant to finish out the NeRAIN, and all the other districts that were not involved in this project in the past are now soliciting volunteers to read the gages. The new Web site is listed on the report.

Mr. Onnen also distributed "Out of the Blue," the Little Blue Natural Resources Newsletter (February 2006 issue) (**Exhibit H**).

**Upper Big Blue NRD.** John Turnbull handed out the report for the Upper Big Blue NRD (**Exhibit I**) and briefly summarized it. Mr. Turnbull pointed out that there are one million irrigated acres in the Upper Big Blue NRD, which makes the District the most heavily irrigated district in the State of Nebraska, with about 15% of the State's total irrigation.

In regards to ground water level changes, the District records groundwater level readings each spring. They measure over 500 wells, and have been doing this for a long period of time. On the last page of the Upper Big Blue NRD report there is a graph that shows the ground water level changes in the District since 1961 up to the current time. The graph shows that the ground water levels declined from about 1961 to 1981 an average of about a half of a foot decline over that 20 year period. Then there was a sharp rise above the pre-development level to about 1987, then it dropped until 1991, and then it hit the peak in 1999 and 2000. There has been a decline from 1999 to now. But that still leaves the District 2 ½ - 3 feet above their lowest point, which was back in 1976. When the District's Board of Directors adopted the first groundwater regulations in 1979 the long time goal was to sustain the water use. Long-term sustainability has been a big discussion item in the State of Nebraska. This spring (2006) the ground water level went below the reporting trigger, which means the start of the next phase of the existing regulations. Recommendations from the water committees are being gathered, and the Board will meet to approve the enactment of the next phase, which will require certification of all the irrigated acres in the District and require water use reports for all water users in the District, including municipalities, industrial, as well as agricultural. Water meters are not required at this time, they can use estimates on the water use reports. This next phase should start in the next week. If the groundwater levels fall below the allocation trigger, regulations are already set up to require water meters on all large capacity wells, which are 50 gallons of water or more capacity, and there would be allocation of groundwater for all users, municipalities, industrial, commercial, and agriculture.

There is not a well drilling moratorium in the Upper Big Blue NRD, except for a small part of northwest Hamilton County, which is because of the fully appropriated designation of that river basin.

An Environmental Trust grant was awarded to the Upper Big Blue NRD from the Nebraska Environment Trust, which gets its monies from the Lottery proceeds in the State of Nebraska. The District can use the funds as long as the District doesn't go into the next phase of the regulation that requires meters. As soon as the District requires meters, the Trust grant drops off, so the District is encouraging producers to get those meters before the regulation hits.

Ken Reiger concluded the Nebraska report with comments on the planting season. He stated that the rain fall situation looks considerably better than it has for several years. There has been a lot more optimism from the farmers. The planting season this spring has been one of starting and stopping and starting and stopping. They started some early planting, then there were the rains and cool weather, so planting came to a stop for a week to ten days, and then there was a little more planting done. The majority of the corn has been planted, and the farmers of the area are working on getting soybeans planted. As indicated in Upper Big Blue NRD's report, the water table has dropped, so changes in the way agriculture is going to be conducted in the future are anticipated. The question was asked about how fuel prices have impacted irrigation. In response, it was mentioned that there has been more no-till planting. Also, there has been an increase in center pivot irrigation, and there has never been sprinkler irrigation on some of the tracks. It is because the efficiency of the irrigation that can be done with a center pivot sprinkler over a gravity system.

### **Kansas Report**

Commissioner Pope presented the Kansas report.

#### **Climate**

There has been some spring rains, much improvement compared to previous years, but still haven't recovered back to normal in terms of soil moisture, etc. In western Kansas there are still areas in severe drought.

#### **Legislation**

Some of the things that the Division of Water Resources (DWR) deals with are driven by the financial situation, which was improved substantially this year as compared to previous years. Therefore, it was a good session from the standpoint of getting more money back into the agency budget.

DWR will be able to increase staff to support the utilization of the hydrologic computer modeling done by consultants in regards to the two major interstate issues, the Kansas-Colorado situation as well as the Republican River Compact issues, and also issues regarding the Missouri River.

There was budget support for DWR's Enhance Water Management program. The Enhanced Water Management program will deal with some of the problem areas of the state, step up enforcement, implement management strategies, etc. One specific category that was added is dollars to purchase additional equipment.

This year there was a lot of discussion on policy bills to deal with issues related to dams and dam safety in regards to changes in classification when development occurs below existing structures that were built as low hazard and then became significant or high hazard due to downstream development. The legislation did not pass as proposed, however, as a result of those discussions a consensus evolved through the budget process that DWR staff should do inspections that had been previously required to be done by the owners through their own hired private engineering consultants. Historically, DWR did do the inspections, but because of a shortage of staff, about five years or so ago that burden was shifted to the owners. The Legislature did increase DWR's staff by three FTEs, so DWR can take over most of these inspections.

There was success this last year in phase II of a process to shift some funding to restore the full funding available from the State Water Plan Fund that was established a number of years ago. Over the years, particularly in those lean budget years, there was a tendency for things to be funded out of the Water Plan that maybe should have been funded by the General Fund, or historically have been funded by the General Fund. Some of those expenditures have been restored back to the General Fund. DWR had nine positions that they were able to shift to the General Fund, which is where they probably belonged, in regards to a long-term personnel cost that has become part of the agencies programs. It was a big boost, even though it wasn't new net money. It frees up the State Water Plan Fund for other projects.

The State Water Plan Fund is used for the following projects:

1. Kansas Department of Health and Environment (KDHE) got \$4 million for such things as contamination remediation, local environmental protection, non-point source programs, etc. The Watershed Restoration and Protection Strategy (WRAPS) was funded for the second year. That program provides dollars to each of several WRAPS areas, which are areas, for example, above major reservoirs where local groups and stakeholders have come together to work with KDHE and other agencies to come up with solutions to deal with water quality problems, such as sediment and the need to protect or restore reservoirs.

2. DWR got \$2 million from the State Water Plan Fund to use for the Enhanced Water Management Program and the Interstate Water Programs.

3. Kansas State Conservation Commission (SCC) is one of Kansas' major funding agencies for cost share and grant programs. They received \$10 million from the State Water Plan Fund. The SCC administers three voluntary cost-share programs, the Water Resources Cost-Share Program, the Non-Point Source Pollution Control Program, and the Riparian and Wetland Protection Program. These programs provide financial assistance to eligible landowners for conservation practices that reduce soil erosion, improve water quality, and/or conserve water. Legislation was passed this year to start a Water Rights Transition Assistance

Program (WTAP). DWR is also involved with WTAP because of the water rights related issues. There are a couple of areas targeted, but it could go to other areas identified as high priority areas where there is a need to reduce water use and to transition from irrigation to dry land in those areas. The grants would compensate water users for not irrigating, and the water users will, in exchange, commit to forfeiting or dismissing their existing water right. The land would permanently go to dry land production.

Funds were made available to continue the lease for Almena Irrigation District on the Prairie Dog Creek. That district will not take water again this year from storage to irrigate those lands. Instead the water will stay in the lake to enhance recreation.

The Legislature appropriated \$4.5 million to be set aside for a future CREP program. The money cannot be spent until another review by the Legislature and action next year. It does, however, allow the State to enter in to in-depth efforts to put together a plan in conjunction with FSA and stakeholders. There has been a lot of meetings and a lot of discussion going on. An area has been targeted for the program. The area being considered is the Arkansas River, from the Colorado-Kansas state-line to Great Bend. There are concerns by the representatives of the agribusiness community regarding the economic impact to the local businesses not withstanding the long term shortage of water.

There was \$34.7 million provided to the State by Colorado from the damage award from the Arkansas River lawsuit. There was \$4 million appropriated from one fund for the money set aside for the CREP program. There is another fund that is dedicated to the local area immediately downstream from the Colorado-Kansas state-line, the area most directly affected. The Legislature authorized \$3.5 million for feasibility studies and for projects that rise to the top of the priority this year.

### **Litigation**

The KS v CO lawsuit is approaching the end. It has been a very intense year working out the remaining technical and legal details. There has been an extensive amount of discussion on a cooperative basis between the States. There are areas of disagreement still, but a lot of progress has been made in putting agreements in to place to carry out long-term compliance and implementation. These include monitoring, computer modeling, etc. In January, Colorado objected to the version of the computer model that was tentatively agreed to. If an agreement is not reached, it will go back to the Special Master for decision on isolated issues. There has also been a lot of work between the two states to draft a Court Decree. Any areas of disagreement will have to be resolved by the Special Master or the Court.

This was a very active year again for Missouri River issues. There has been a major effort the past couple of years to form a new broader based organization to replace the MRBA. A new agreement is being circulated to the Governors to implement it. Also related to the Missouri River, the Corps announced the start of the Spring Rise today.

## **Water Administration**

This year DWR is continuing their move towards more mandatory metering in the State. The latest area included is all of northwest Kansas. This is a multi-year task. There are now about 25,000 large capacity wells metered in the State of Kansas. There are not many areas left that are not metered. There is also a mandatory water use reporting system, that requires users to keep record of what they divert and report to DWR, and there is strong enforcement of these requirements.

Katie Tietsort continued the Kansas report with comments on water administration. She stated that in the Blue River Basin there were some considerable rains. There were less than a dozen applications approved for additional appropriation in the Basin in the last year. There was no administration for MDS criteria in the Basin in this last calendar year.

DWR received a grant from the Water 2025 Program of the Bureau of Reclamation. The grant is being used in the Republican River Basin to look at metering telemetry equipment. DWR is working with volunteer participants to remotely monitor metering devices. A vendor contract has been awarded to obtain the equipment. This equipment will be installed on the existing meters and will allow staff to poll a unit to tell if the unit is operational and to get daily or more frequent readings on the diversion and meter reading. The equipment will allow users to sit at their computer and have real time access to tell how much water they have applied to their allocation and be able to better manage their irrigation systems. Although this is a pilot project, there are parties interested in how this technology might be more broadly utilized. There are 50 diversion sites being monitored this year with additional sites anticipated for next year. The total for the project is up to 100 sites.

At the conclusion of the Kansas report, Commissioner Pope introduced DWR's Assistant Chief Engineer, Paul Graves. This is a new position with the agency.

Representative Schwartz added an explanation as to why the CREP program money was put aside until next year. There are a lot of reservations in the Legislature to approve one-time money without knowing the economic impact, not only to the area, but also to the State. There is more support amongst legislators for transition into dry land verses just going to grass, because once it goes to grass, it will never come back to irrigation. Until the legislators are able to see figures that can make a difference, the money will not be expended. The big concern is that the money would go out of state and not stay in those areas.

### **Federal Agencies' Reports**

Phil Soenksen, from the U.S. Geological Survey (USGS) distributed his report (**Exhibit J**). The first two paragraphs describe how USGS operates the gaging stations. The middle two paragraphs are the summary of what occurred at the two gages over the 2005 water year. The last two paragraphs gives information on how to get the data. The other sheets of the report are the published data and graphs.

### **Secretary's Report**

Debra Hayes put together a list of Big Blue Compact Administration members' names, addresses, and e-mail addresses. The lists are available as handouts, but will not be included in the Annual Report as an Exhibit. Ms. Hayes will keep the list updated as changes are made to the Compact membership.

### **Treasurer's/Budget Report**

Mr. Shafer distributed the budget analysis and the report of the treasurer (Exhibit K). There was a discussion of state-line gages. Phil Soenksen explained that each state pays a quarter of the cost for the state-line gages. The Compact picks up ½ the cost, and the other ½ is funded by one of three major programs: National Stream Flow Information Program (NSIP); Federal, which is mostly the Corps of Engineers; and cooperative with the State, NRDs, City of Lincoln, etc. The Compact gages are funded currently under the cooperative program. These are the only gages in the state that are getting a 50/50 match.

### **Legal Committee Report**

There was no Legal Committee report.

### **Engineering Committee Report**

Mr. Shafer submitted the Report of the Engineering Committee to be included in the Annual Report (Exhibits A – E). The data was collected in accordance with the agreements with the USGS and the Lower Big Blue NRD. Mr. Shafer noted that Exhibit E shows that no new irrigation wells were added in the regulatory areas for groundwater for the Compact. Six irrigation wells were decommissioned officially within the State's database, so those have been removed. Mike Onnen says that the seventh one has also been decommissioned, but did not hit the database, so it was not removed.

### **Water Quality Committee Report**

Dale Lambley distributed the Water Quality Committee report with attachments (Exhibit L). Mr. Lambley explained that the first part of the report is background of the Water Quality Committee. This is included for any newcomers or, since they only meet annually, as a reminder on what the background and the goals are.

Dan Howell has been selected as the appointee by the Kansas Water Office to the Water Quality Committee.

Representative Schwartz commended the Water Quality Committee on what the Committee has done and the cooperation they've had with all agencies involved.

**Old Business**

There was no old business to report.

**New Business**

Mr. Shafer gave an update of the Blue River Basin's Flow Augmentation Study. It involves the Compact because the study is looking at augmenting for the State of Nebraska to limit economic impact. Mr. Shafer handed out a brief update on the Study (**Exhibit M**).

Roger Patterson was recognized for his many years of service to the Compact with a Resolution read by Commissioner Bleed. A copy of the resolution was given to Ms. Hayes for record.

The annual meeting will be hosted by Kansas next year. It was suggested to have it at the Kansas Farm Bureau in Manhattan. The tentative date is May 10, 2007.

Committee membership for the upcoming year will be:

**Budget Committee**

Jeff Shafer, Chairperson  
Bob Lytle

**Legal Committee**

Lee Rolfs, Chairperson  
Ann Diers

**Engineering Committee**

Jeff Shafer, Chairperson  
Keith Paulsen  
Bob Lytle  
Katie Tietsort

**Water Quality Committee**

Dale Lambley, Chairperson  
Tom Stiles  
Dan Howell  
Annette Kovar  
Rich Reiman  
Pat Rice

Chairman Mitchell declared the meeting adjourned at 12:52 p.m.

  
\_\_\_\_\_  
Gary Mitchell, Compact Chairman

  
\_\_\_\_\_  
David L. Pope, Kansas Commissioner

  
\_\_\_\_\_  
Ann Bleed, Nebraska Commissioner

**REPORT OF THE ENGINEERING COMMITTEE  
TO THE  
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION  
May 11, 2006**

The 2005 data were collected in accordance with the agreements with the United States Geological Survey (USGS) and the Lower Big Blue Natural Resources District (LBBNRD).

**REVIEW OF STREAMFLOW DATA**

The Compact sets forth the following stream flow targets:

	Big Blue River	Little Blue River
May	45 cfs	45 cfs
June	45 cfs	45 cfs
July	80 cfs	75 cfs
August	90 cfs	80 cfs
September	65 cfs	60 cfs

During the 2005 water year (October 1, 2004 thru September 30, 2005) the mean daily streamflow at the Barneston gage on the Big Blue River (Exhibit A) fell below the target flow a total of 9 days and the Hollenberg gage on the Little Blue River (Exhibit B) fell below the target flow a total of 26 days.

Recent and Historical Data for the two gages can be found at the following USGS websites:

Big Blue River - [http://waterdata.usgs.gov/ne/nwis/uv/?site\\_no=06882000](http://waterdata.usgs.gov/ne/nwis/uv/?site_no=06882000)

Little Blue River - [http://waterdata.usgs.gov/ne/nwis/uv/?site\\_no=06884025](http://waterdata.usgs.gov/ne/nwis/uv/?site_no=06884025)

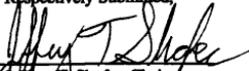
**REVIEW OF GROUNDWATER DATA**

The USGS provided the data for hydrographs for two wells in Gage and Jefferson Counties (Exhibit C). The LBBNRD provided the groundwater data for the portion of the Big Blue River near Beatrice listed in Exhibit D.

**REVIEW OF WELLS IN REGULATORY REACHES**

The lists of wells within the regulatory reaches are shown in Exhibit E. No new irrigation wells were drilled in the regulatory area in the last year. Six irrigation wells in the Little Blue River regulatory area that were included on the list last year were decommissioned.

Respectively Submitted,

  
Jeffrey P. Shafer, Chair  
Nebraska

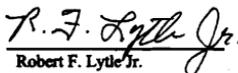
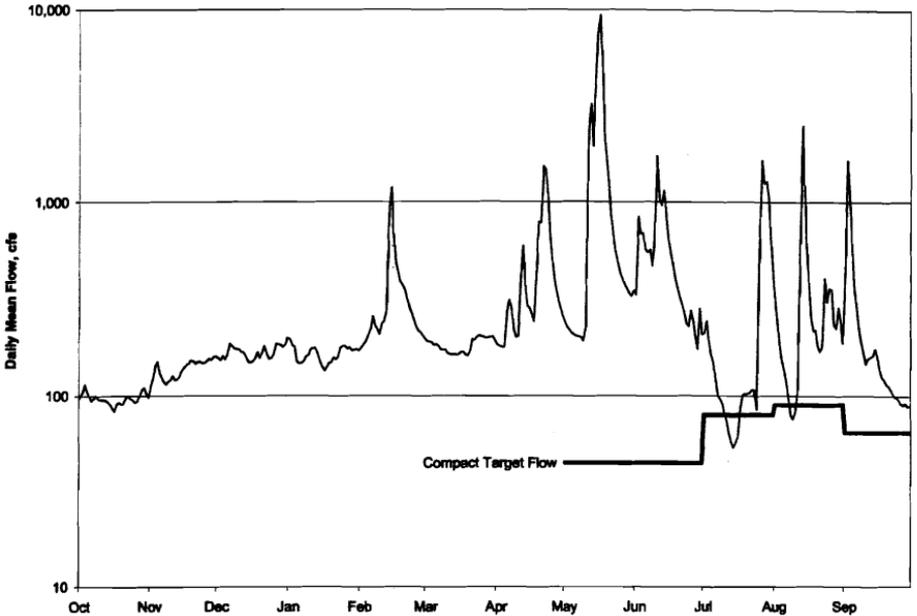
  
Robert F. Lytle Jr.  
Kansas

Exhibit A

BIG BLUE RIVER AT BARNESTON, NEBRASKA - 06882000

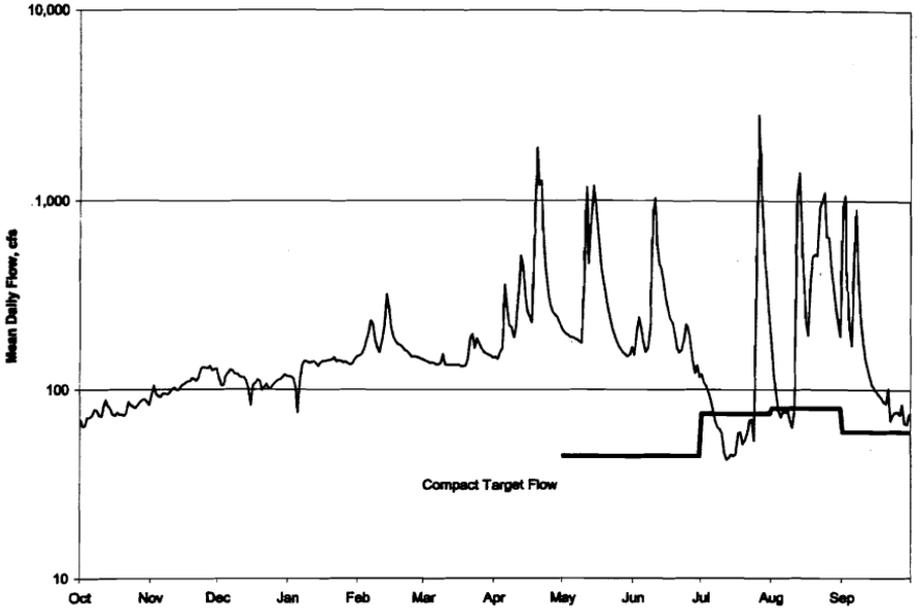


	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TOTAL	2999	4136	5191	5080	9533	5665	13483	46965	16511	9236	10751	7731
MEAN	96.7	138	167	164	340	183	449	1515	550	298	347	258
MAX	114	159	200	196	1190	206	1540	9430	1750	1660	2520	1660
MIN	83	112	148	135	177	161	179	192	175	54	76	89
AC-FT	5950	8200	10300	10080	18910	11240	26740	93160	32750	18320	21320	15330

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR	FOR 2005 WATER YEAR	WATER YEARS 1933 - 2005	
ANNUAL TOTAL	206985	137281		
ANNUAL MEAN	566	376	848	
HIGHEST ANNUAL MEAN			2781	1993
LOWEST ANNUAL MEAN			115	1934
HIGHEST DAILY MEAN	17900	May 30	50000	Jun 9 1941
LOWEST DAILY MEAN	83	Oct 16	1.0	Nov 30 1945
ANNUAL SEVEN-DAY MINIMUM	89	Oct 14	15	Aug 3 1934
MAXIMUM PEAK FLOW		9470	57700	Jun 9 1941
MAXIMUM PEAK STAGE		14.05	34.30	Jun 9 1941
ANNUAL RUNOFF (AC-FT)	410600	272300	614500	
10 PERCENT EXCEEDS	1100	680	1740	
50 PERCENT EXCEEDS	180	180	275	
90 PERCENT EXCEEDS	104	97	105	

Exhibit B

LITTLE BLUE RIVER AT HOLLENBERG, KANSAS - 06884025



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TOTAL	2408	3283	3448	4154	5089	4587	12202	10897	8305	7780	12772	6884
MEAN	77.7	109	111	134	182	148	407	352	277	251	412	229
MAX	89	133	149	149	318	196	1900	1200	1030	2850	1430	1070
MIN	64	91	83	76	146	133	145	146	123	43	63	66
AC-FT	4780	6510	6840	8240	10900	9100	24200	21610	16470	15430	8890	13650

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR	FOR 2005 WATER YEAR	WATER YEARS 1975 - 2005
ANNUAL TOTAL	119285	81809	
ANNUAL MEAN	326	224	507
HIGHEST ANNUAL MEAN			1891
LOWEST ANNUAL MEAN			195
HIGHEST DAILY MEAN	6990	Jun 16	2850
LOWEST DAILY MEAN	40	Sep 20	43
ANNUAL SEVEN-DAY MINIMUM	49	Sep 14	47
MAXIMUM PEAK FLOW		5000	Jul 26
MAXIMUM PEAK STAGE		13.52	Jul 26
ANNUAL RUNOFF (AC-FT)	236600	162300	367000
10 PERCENT EXCEEDS	559	461	840
50 PERCENT EXCEEDS	141	141	199
90 PERCENT EXCEEDS	74	74	104

Exhibit C

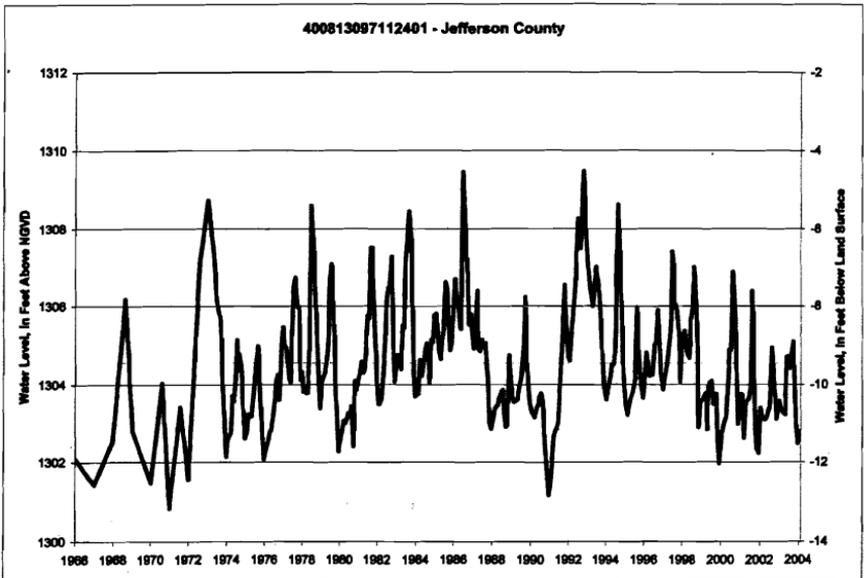
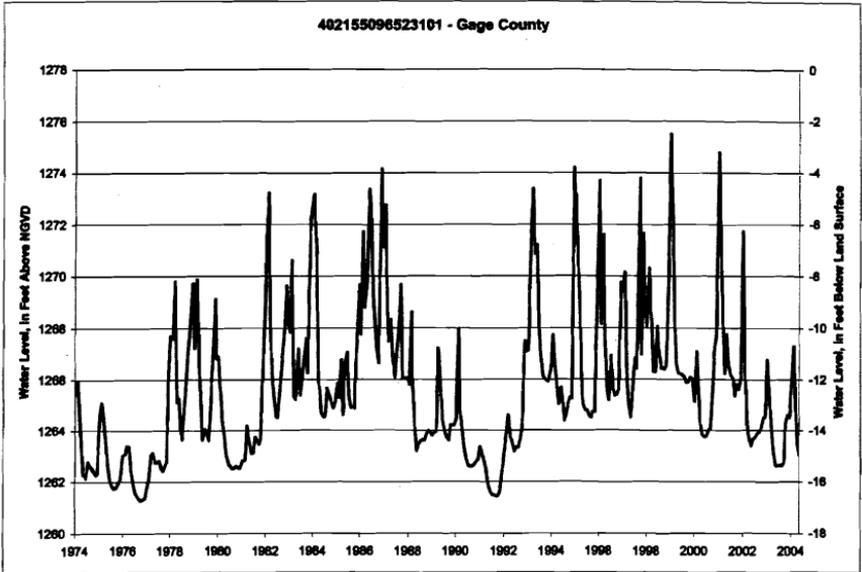


Exhibit D

Big Blue River Compact Static Water Levels 2005

Legal	Section	Location	Well	4/11/2005 Depth Spring	8/8/2005 Depth Irrigation	11/7/2005 Depth Fall
4N-5E	2	AAAA	OW	95.06	100.24	98.84
4N-5E	2	DDAA	IW	18.55		21.05
4N-5E	4	BBBC	IW	21.77		23.61
4N-5E	9	CBCC	IW	74.45		75.94
4N-5E	10	DDAA	IW	28.95		32.22
4N-5E	11	DACA	IW	17.36		18.94
4N-5E	14	ABBB	IW	14.03		15.61
4N-5E	25	AACD	IW	21.45		21.46
5N-4E	12	ABBA	IW	19.52		19.91
5N-4E	13	BADD	IW	17.29		19.21
5N-4E	23	BABB	IW	16.26		18.34
5N-4E	24	AACD	IW	19.32		20.23
5N-5E	7	CADD	IW	62.28		65.51
5N-5E	20	BCCD	IW	20.16		21.42
5N-5E	21	DDBB	IW	54.84		61.92
5N-5E	29	CBBB	IW	15.74		17.55
5N-5E	33	AADD	IW	19.68		21.98

Exhibit E

BLUE RIVER BASIN  
REGULATORY AREA WELLS

Big Blue River

Registration Number	Location	Completion Date	Depth (FT)	Registration Pumping Capacity (GPM)
G-36485	4N-5E-11BC	03-28-72	82	750
G-38314	4N-5E-02DD	01-16-73	188	1,300
G-47820	4N-5E-12BB	11-01-75	117	1,200
G-30086	5N-5E-33AC	05-26-76	123	800
G-54047	4N-5E-24BB	03-01-76	84	800
G-54260	4N-5E-14AA	06-01-74	70	800
G-54261	4N-5E-14AB	05-02-70	70	800
G-56152	4N-5E-04BB	04-14-77	91	1,000
G-59128	5N-5E-29AA	04-25-77	60	400
G-59727	5N-5E-33CB	04-19-78	91	1,200
G-81769	4N-5E-13CD	04-22-84	65	250
G-100788	5N-5E-29AB	03-19-89	65	500
G-110669	4N-5E-13CC	06-29-2001	64	375
G-110847	4N-5E-03DA	07-02-2001	82	800
G-110849	5N-5E-29DD	07-02-2001	102	800

Little Blue River

Registration Number	Location	Completion Date	Depth (FT)	Registration Pumping Capacity (GPM)
G-58158	2N-2E-16AA	08-15-77	29	650



**Lower Big Blue  
Natural Resources District**

*Established in 1972 for the Development and Conservation of Soil and Water Resources*

**Lower Big Blue NRD Highlights of 2005-2006 for the Blue  
River Compact Annual Meeting - May 11, 2006**

**Water Quality & Quantity**

- Decommissioned 52 wells last year.
- Average cost \$356/well – Average cost-share \$201/well
- 513 wells have been decommissioned since 1992
- Water quality sampling – 450 wells – nitrate/nitrogen 7.24 ppm average
- 958 of the 2200 irrigation wells have been sampled
- 62 Well Permits approved for wells pumping more than 50 gpm
- 409 Well Permits have been issued since 1997
- Groundwater levels – 59 wells measured
  - > Spring 2005 to Spring 2006 showed a decrease of 0.84 ft.
  - > Fall 2004 to Spring 2005 showed an increase of 2.02 ft.
  - > Fall 2005 to Spring 2006 showed an increase of 1.16 ft.
- Blue River Compact Well Readings
  - > Spring 2005 to Spring 2006 averaged 0.65 ft. lower
  - > Spring 2004 to Spring 2005 averaged 0.36 ft. lower.
  - > Fall 2005 to Spring 2006 increased 0.31 ft.
  
- The Lower Big Blue NRD has entered into an agreement with the Upper Big Blue NRD on a Ground Water Model Study to look at the possible interrelationship between ground water and surface water in the NRD.
  
- The Lower Big Blue NRD, Little Blue NRD, Nebraska Department of Natural Resources and the U.S. Department of Interior-Bureau of Reclamation are working on a memorandum of understanding regarding stream flow augmentation for the Blue River Basin.

The Lower Big Blue NRD is part of the recently approved Tuttle Creek Lake Targeted Watershed Grant Project. This project is a collaborative effort between Kansas and Nebraska to address multi-jurisdictional water quality problems involving excessive runoff of sediment, nutrients, herbicides and bacteria.

**Land Treatment** – 70% of Land in the NRD Treated

- **NSWCP – NRD Funds:** \$65,000, State: \$106,263 \$171,263 total funds
  - 201 applications requesting \$677,996
  - Approved 75 applications for \$223,562
  - In the last year :
    - > 160 miles of terraces
    - > 24 miles of tile outlets
    - > 75 acres grassed waterways
- **Buffer Strips** 206 contracts - 1,545 acres \$55,039 annual payments
- **Small Dam Cost-Share Program**
  - Initiated in 1997
  - Constructed 18 dams, Total cost - \$338,803
  - 2 scheduled for this year

**PL -566 Watershed Loans**

The Lower Big Blue NRD completed final payments on watershed loans for the Cub Creek Watershed and the Mud Creek Watershed. Cub Creek has 24 flood control structures and Mud Creek contains 18 structures. Mud Creek has the popular Rockford Lake recreational area that is managed by the NE Game & Parks Commission.

### CSP, EQIP, WHIP Contracts

<u>CSP 2005</u>	CONTRACTS	ACRES	DOLLARS
GAGE	211	63,420	\$ 4,914,936
SALINE	140	41,401	\$ 2,479,141
PAWNEE	16	7,039	\$ 316,301
JEFFERSON	60	<u>26,372</u>	<u>\$ 2,104</u>
<b>TOTAL</b>	<b>427</b>	<b>138,231</b>	<b>\$ 7,712,482</b>

\* Jefferson is  
Estimated

<u>CSP 2006</u>	CONTRACTS	ACRES	DOLLARS
GAGE	44	12,439	\$ 765,921
SALINE	83	25,530	\$ 1,602,043
PAWNEE	6	2,876	\$ 127,640
JEFFERSON	1	<u>28</u>	<u>\$ 1,295</u>
<b>TOTAL</b>	<b>134</b>	<b>40,873</b>	<b>\$ 2,496,899</b>

**TOTAL CSP**                    **561**   **179,104**   **\$ 10,209,381**

<u>EQIP</u>	CONTRACTS	ACRES	DOLLARS
GAGE	15	2,143	\$ 290,328
SALINE	<u>44</u>	<u>6,387</u>	<u>\$ 684,497</u>
<b>TOTAL</b>	<b>59</b>	<b>8,530</b>	<b>\$ 974,825</b>

JEFFERSON	<b>39</b>	<b>2,135</b>	<b>\$ 420,326</b>
PAWNEE	20	2,069	\$ 579,426

\*All of County

<u>WHIP</u>	CONTRACTS	ACRES	DOLLARS
GAGE	4	167	\$ 44,288
SALINE	0	:	\$ -
<b>TOTAL</b>	<b>4</b>	<b>167</b>	<b>\$ 44,288</b>
PAWNEE	3	626	\$ 46,739
JEFFERSON	2	170	\$ 11,584

\*All of County

Performance Measure	Unit	LBB
Wetland Protected by 30 Year Easements	Acres	15
Reduction in acres of cropland damaged by erosion	Acres	16,150
Soil Erosion Reduced	Tons	115,181
Grazing Land with Conservation Applied to Protect the Resource Base	Acres	634
Comprehensive Nutrient Management Plans (CNMP) Applied	Number	2
Wetlands Created, Restored, or Enhanced	Acres	32
Agricultural Lands Treated for which Wildlife is the Primary or Secondary Resource Concern	Acres	2,559
Irrigation Efficiency Improved	Acres	825
Conservation Plans for Cropland, Written	Feet	26,834
Conservation Plans for Grazing Lands, Written	Acres	3,019
Irrigation Water Management, Applied	Acres	1,224
Buffers, Applied	Acres	193
Nutrient Management, Applied	Acres	12,219
Pest Management, Applied	Acres	8,294
TERRACES	Feet	581,995
WATERWAYS	Acres	61
TILE OUTLETS	Feet	144,912
CRP SEEDING	Acres	1,891
DAMS SURVEY/DESIGN	Number	7

## Flood Control

- 11 flood control projects control runoff from 34% of the district, or 157,000 acres.

## Lower Turkey Creek Project

The Lower Turkey Creek Project was approved for funding through the Natural Resources Development Fund (NRDF) in November 2005. The primary purpose of this project is flood control. The seven flood control structures will control runoff from 43,600 acres, or approximately 33% of the 131,200 acres located in Saline County

- The Lower Turkey Creek Project contains 131,200 acres of the 294,900 total Turkey Creek Watershed.
- The seven structures will provide 490 surface acres of permanent pool and 1450 surface acres of flood pool.
- Annual damages will be reduced by 31% in the 16,700 acres in the 100 year flood plain.
- Average annual benefits will be \$400,000.
- Dollar damages – 100 year, \$1,836,706

### Estimated Cost of Project

\$3,540,000	Construction
TOTAL COST	\$5,992,000

### Stream Flow Augmentation

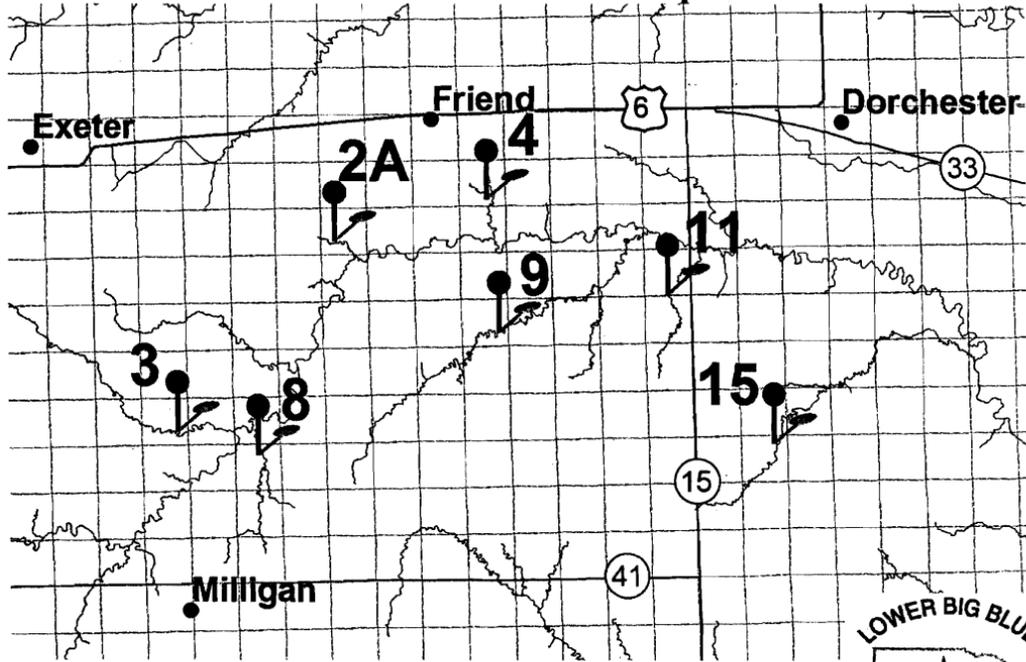
- Turkey Creek flows improved through retained flows for releases over longer period of times (flood storage releases)
- Drains within structures providing some year-round flows into tributaries and Turkey Creek
- 3,500 acre feet of sediment storage would be available for release during extreme low flows.
- Erosion and Sediment Control
  - 7 structures have estimated 3500 acre feet of sediment storage (1.03\* runoff from each acre of drainage area above structures)
  - Presently 75% of drainage area above 7 structures is treated with grass and terraced cropland. In addition, between 10-15% of the drainage area is on non HEL soil and requires no land treatment practices (Class I & II lands)

### Other Purposes

- Surface Water Quality – 490 acres of surface water
- Wildlife Habitat – Upland birds, fisheries
- Wetland creations in upper reaches of permanent pools

# LBBNRD Lower Turkey Creek Watershed Project

## Dam Site Location Map



27



**OLSSON ASSOCIATES**  
ENGINEERS • PLANNERS • SCIENTISTS • SURVEYORS



**Swan Creek Reservoir Water Quality Project  
Saline County Nebraska  
Lower Big Blue River Basin**

The Swan Creek Lake Site 5, Willard L. Meyer Recreation Area, was planned and developed as a multi-purpose flood control/public recreation area. The structure controls 4,590 acres of drainage and has a permanent recreation pool of 95 acres. The recreation area is very popular, with primary use coming from Thayer, Fillmore, Saline, Jefferson, Gage, and Lancaster Counties. Construction of the lake was completed in 1988 and the lake was filled in 1994.

On January 1, 2000, Swan 5 was listed as a Section 303(d) list of impaired waters. Primary concerns are sediment, nutrient, and atrazine levels entering the reservoir. In 2004 residents from the watershed and various resource agencies developed a Watershed Management Plan to address water quality issues. Since the finalization of the plan, significant progress has been made to reduce nonpoint source pollution to both surface and ground water. Land treatment highlights include:

- ❖ Cropped Acres In Watershed: 2,399
- ❖ # Land Owners/Operators In Watershed: 43
- ❖ # Land Owners/Operators Participating In The Project: 35
- ❖ # EQIP Contracts Approved: 20
- ❖ Cropped Acres Under No-Till Management: 1,550 (65%)
- ❖ Cropped Acres Under Nutrient & Pesticide Management: 1,550 (65%)
- ❖ New Storage & Non-storage Terraces: 540 acres (29,345 linear feet)
- ❖ # New & Rehabilitated Sediment Basins: 16 (controls 3,917 acres)
- ❖ # Wells Decommissioned: 15
- ❖ # Septic System Improvements: 6

**Mission Statement**

"The Swan 5 Watershed Improvement Group is a locally led group to identify and promote needed conservation practices within the watershed to reduced runoff, improve water quality, benefit agriculture, maintain the diverse uses of Swan 5 recreational area, and to increase wildlife."

**Project Partners**

Swan Creek Watershed Council	Lower Big Blue NRD
Natural Resources Conservation Service	Saline County Cooperative Extension
NE Dept. of Environmental Quality	NE Game and Parks Commission
NE Environmental Trust	US Environmental Protection Agency

**Report to the Blue River Compact  
Little Blue Natural Resources District  
2006**

**Conservation Accomplishments**

One of the main conservation initiatives of the Little Blue NRD is the offering of cost-share incentives for various soil and water conservation practices. This is accomplished both through local and state funds administered by the District. Below, find a summary of conservation accomplishments for 2005.

Practices	Units	Extent
Terraces	LF	133,179'
Waterways	LF	33,146
Livestock Dugouts	EA	4
Water and Sediment Control Basins	EA	3
Diversions	EA	6
Planned Grazing Systems	EA	13
Critical Area Seedings	AC	39.07
Tree Planting Contracts	EA	25
Trees Sold	EA	33,090
Windbreak Renovation Sites	EA	4
Buffer Strips	AC	380
Wildlife Habitat Improvement	AC	1,899.50
Conservation Easement - Wetlands	AC	23.8
Irrigation Water Management Plans	EA	13
Irrigation Reuse Pits	EA	1
Buried Return Line Projects	EA	1
Buried Pipelines	LF	11,561
Water Meters	EA	5
Pivot Conversions with Drop Nozzles	EA	15
Irrigation Gates and Gasket Contracts	EA	55

**Watershed Project Construction**

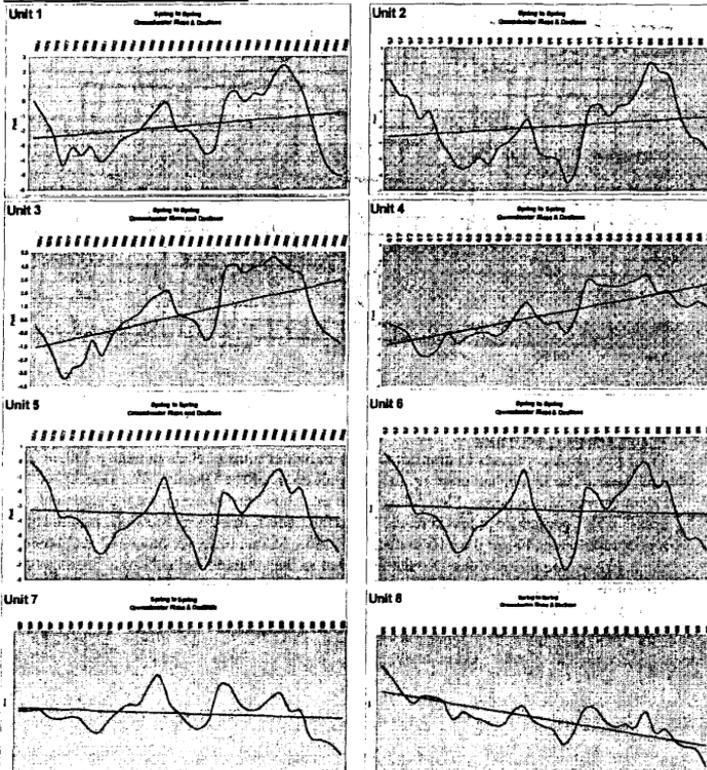
The Little Sandy Creek Watershed Project is now in full swing. Dam Site 61 in the northern section of the watershed is nearing completion. This dam will control 5,500 acres of drainage and provide a 76 acre permanent pool. The District is incorporating public recreation on the 60 acre land area surrounding the future lake. Engineering for Dam Site 40, the largest Little Sandy project with a 14,500 acre drainage and 144 acre reservoir is complete and plans have been submitted to DNR for review.

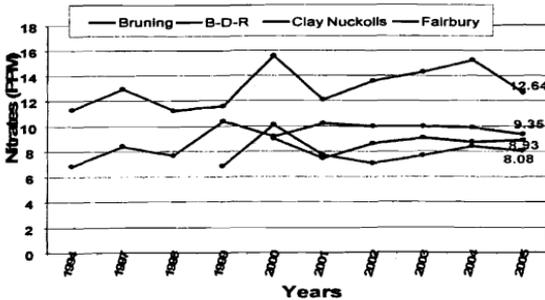


### Groundwater Monitoring

The District measured 340 irrigation wells in April, 2006 to determine any changes in the water levels from the previous year. Drought conditions have influenced water levels in our District now for the 6<sup>th</sup> consecutive year as evidenced by the water levels. This spring we observed an average decline of 0.56' from the previous year. Overall, the 6-year trend has caused an average decline of 5.55' district-wide. However, that trend began in 2000 with water levels the highest they had been in the NRD since the District began monitoring wells in 1974. The water table seems to be very resilient and responds proportionately to rainfall. Even with this recent decline, all trend lines for the 8 identified Hydrologic Management Units of our district show essentially long-term rises, straight-line or minor decline charts, with the exception of Hydrologic Unit # 8 found in southern Jefferson and Thayer Counties.

### Hydrologic Management Units





**Little Blue River Basin Development Review**

With the passage and implementation of LB 962 in Nebraska, a study was conducted by the DNR to determine if any portion of the Little Blue River Basin was "fully appropriated. In December, a preliminary report showed that a 77 square mile area of northwest Adams County may have groundwater development that met the criteria for adversely impacting stream flows of the Platte River. With the peer review and acceptance of modeling work completed for the Platte River, the area was removed from the designation on April 21, 2006. However, as a result of the State's plans for annual reviews of similar development data, the Little Blue NRD Board has contracted with the Upper Big Blue NRD for modeling services to determine the areas of our district which may meet the criteria of the law for interconnected surface and ground water. The study is being conducted at this time and should be completed by the end of the year.

## Nebraska Rainfall Assessment and Information Network



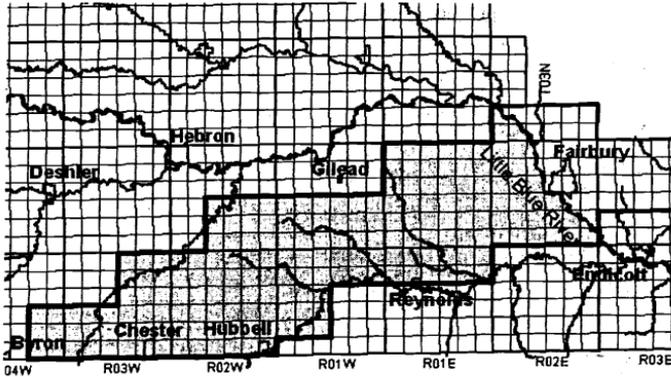
The Nebraska Rainfall Assessment and Information Network (NeRAIN) is going state-wide. A grant provided by the Nebraska Environmental Trust will allow all remaining areas of the state to establish the volunteer network for reporting daily rain and snowfall.

The daily information recorded is entered directly on a web site designed by the Department of Natural Resources where it can be viewed as rainfall distribution maps, station historical records and more. Check out this web site at: <http://dnrdata.dnr.ne.gov/NeRAIN/index.asp>

**Action to Restrict Development in Unit # 8**

For the reasons stated above, a portion of Hydrologic Unit # 8 was closed to well drilling and expansion of irrigated acres on March 11, 2006. The stay will remain in affect at least until a hydrologic study of Thayer and Jefferson Counties is completed in 2007. The study, being conducted by the University Conservation and Survey Division, is seeking to answer the questions about water in storage, recharge rates and the capacity to maintain the aquifer under current development conditions. Our board will then determine the next steps for management of the area and controls which may involve metering and allocations, rotations or acreage reductions.

The following map shows the boundaries of the Unit # 8 with the shaded portion closed to development at this time.



**Water Quality Activities**

The Little Blue continues to monitor the groundwater nitrate levels in nearly 450 wells each year. The levels had crept up in nearly all areas of the District. The District's Groundwater Management Plan calls for the establishment of intensive management "sub areas" when contaminant levels reach 70% of the MCL in 60% of the wells monitored in a geographic area larger than 16 sections of land. At this time, we have 352 sections of the 2,402 square miles of the District involved in these intensive "sub-area" management programs. Management restrictions include: operator training, soil sampling, realistic yield goals, irrigation scheduling and annual operation reporting. The chart below shows the nitrate levels being tracked in four of the five designated water quality sub-areas.

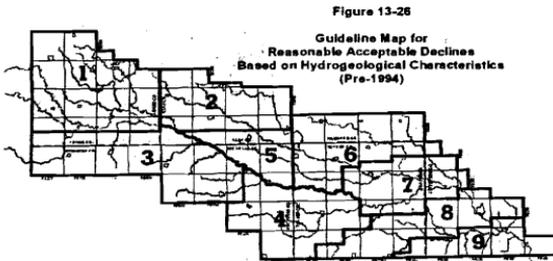
**NRD Board Adopts New Management Plan and Associated Rules and Regulations**

The Little Blue NRD Board has been working on changes to our Groundwater Management Plan for about 24 months. The Plan was finally completed in July 2005 and submitted to the DNR for review and approval. Specific changes in the plan include:

- Increase well spacing for high capacity wells from 600' to 1,000'
- Require all new transfers of water for irrigation be permitted by the NRD
- Restrict the transfer of water into areas where well moratoriums, permit suspensions or groundwater allocations are established.
- Allow for the implementation of water quality regulations in wellhead protection areas, at the request of the community, when contaminant levels have not yet reached triggers.
- Require that domestic wells be constructed to such a depth that they would be less likely to be impacted by seasonal fluctuations of groundwater due to irrigation pumpage.
- Changed the trigger level for Hydrologic Unit # 8 and established a mechanism to place controls in that area notwithstanding the trigger for the area, if conditions persist.
- Modify water quality actions for problem areas to better meet our objectives of education, training and fertilizer management.
- Established general procedures for stays on wells and acreage expansion, certifying irrigated acres, installing flow meters and setting allocations should they become necessary.

The plan was approved by DNR in November 2005 and the rules for implementation of the plan were adopted by the NRD Board in February.

Below find the map of the Little Blue NRD showing the designated Hydrologic Management Units for implementation of the District's Plan.



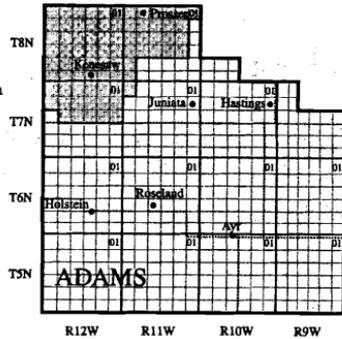
# Out of the Blue

## LBNRDS FULLY APPROPRIATED DESIGNATION

On December 30th, the Department of Natural Resources made a preliminary declaration that a portion of Adams County was “fully appropriated” based on a water resources evaluation required by LB962 passed by the Nebraska Legislature in 2004. The designation comes after several months of debate concerning areas of the state where ground and surface waters might be interconnected.

The Department will hold a public hearing within 90 days of the designation before issuing its final determination of those areas to be fully appropriated.

Mike Onnen, Manager of the Little Blue NRD describes why the designation was made at this time. “The state had a January 1st deadline to complete the preliminary report,” says Onnen. “Maps developed several years ago using Stream Flow Depletion model for determining interconnected waters showed a portion of northwest Adams County (map) could be impacting flows of the Platte River. It was this map that was used for the preliminary determinations,” added Onnen.



However, recent detailed modeling conducted by the Upper Big Blue NRD based on a Cooperative Hydrology Study (COHYST) of the Platte River indicated that the line of groundwater pumpage impacts to the Platte River flows fell outside the boundaries of the Little Blue NRD and did not impact Adams County. Onnen states, “We believe the recent Upper Big Blue modeling is accurate. The state has assured us that when peer review of that COHYST model is completed in the next few weeks, the area of designation will be adjusted to match the more recent modeling effort.” Onnen noted, “Unless corrections are found in the modeling, we fully expect most, if not all, of the area now designated will be dropped from the designation.”

In the meantime, stays are in effect as of January 11, 2006 on any new high capacity wells, surface water permits and new irrigated acres in that portion of Adams County. These stays will remain in effect at least until the Department has made a final determination about whether the area is fully appropriated, which should be around April.

If the Department makes a final determination that the area is in fact fully appropriated, the Department and the Little Blue NRD will be required to initiate the development of an Integrated Management Plan. The plan must be completed within three to five years of the final determination.

*Continued on page 6.*

## CONSTRUCTION CLASSES BUILD FOR LONESTAR REC. AREA



Mike Jess, Construction Teacher answers questions during class.

Young hands are busy at building Lonestar Recreational Area Restrooms. The Meridian, Fillmore Central and Exeter/Milligan High School Construction Classes are pounding away during class time.

Meridian High School Construction Class teacher Mike Jess feels the project is well worth their time. "The class learns a lot about construction every year, last year they built a playhouse, year before that a garden shed. They are getting a lot of knowledge of how a building goes together. It's a very good project for us, bigger project than years past, good experience," said Jess.

The LBNRD has the students follow plans and supplies all of the materials.

It gives the youth a sense of ownership at Lonestar. Student Nathan Bartels says it's a test, "the project gives a pretty good challenge, we all enjoy stuff like this, having fun and testing us at the same time."

The NRD has utilized other area schools building facilities before the Lonestar project. At Liberty Cove southwest of Lawrence the students from Blue Hill and Lawrence built restrooms for the camp grounds in the early 90's.

Bartels looks forward to others seeing their work. "It's nice building something like the outhouse, when people go fishing they can see an example of what we can do in this class."



Brent Wolfe, Jesse Yeager and Nathan Bartels measure and cut outside sheathing to the restroom.

It doesn't take much encouragement to get the kids to work on the project according to Jess. "The kids get into it, enjoying it after its completed. Making something they will see out at the Lake, three of the five kids live in Tobias, they probably will get to use it."



Students Jake Pollock and Mike Jess work on roof.

## **LBNRD TO HOST WATER CONFERENCE**

On February 21st, 2006 the Little Blue Natural Resources District will be hosting a Water Conference at the Adams County Fairgrounds beginning at 9:30 am. Special speakers include Jim Goeke of the University on geology of the district, Tina Kurtz of the Department of Natural Resources on the states water law, groundwater foundation and Paul Jasa presentation on "Saving Water with Reduced Tillage" There will be several business booths and local sponsors helping the NRD with the conference. Plan to attend this informational meeting which is free and open the public.

### **Little Blue NRD Water Conference February 21, 2006**

#### **Adams County Fairgrounds—Hastings NE**

- 9:30**      **Welcome—Milke Onnen, LBNRD**
- 9:40**      **Groundwater Basics and Geology - Jim Goeke, UNL**
- 10:45**      **Break**
- 11:00**      **Little Blue Natural Resources Overview**  
**Daryl Andersen—Water Quality Conditions**  
**Kevin Orvis—Water Quantity Conditions**
- 11:30**      **State Water Laws and Implications—Tina Kurtz**
- 12:00**      **Lunch Provided**
- 12:45**      **Groundwater Issues—The Big Picture**  
**Jennifer Warrick—Groundwater Foundation**
- 1:15**      **Minimize Energy Costs of pumping Irrigation Water**  
**Tom Dorn, Extension Service**
- 2:15**      **Break**
- 2:30**      **Saving Water with Reduced Tillage -- Paul Jasa, UNL**  
**Extension Ag Engineer**
- 3:30**      **Conclusion of Conference**

## CONSERVATION COST-SHARE SIGN-UP

The Little Blue Natural Resources District is accepting cost-share applications in February and March for conservation practices beginning June 1st. Work cannot begin until NRD approval.

Landowners can sign up for Land treatment and Water Quality practices at their local Natural Resources Conservation Offices in the County where the practice will be installed.

All irrigation practices are at a cost-share rate of 50% and other land treatment practices have a 60% cost-share rate. All practices have a six month deadline to complete the work.

Below is the cost-share practices available through the LBNRD.



### **LAND TREATMENT PRACTICES**

Terraces; Underground Outlets; Water Impoundment Dams; Grade Stabilization Structures; Irrigation Tailwater Recovery Pits; Diversions; Grassed Waterways; Water & Sediment Control Basin; Dugouts for Livestock Water; Pasture Planting & Range Seeding; Critical Area Planting (Grass); Windbreaks; Underground Return pipe Only From Irrigation Tailwater Recovery Pits; Water Meter; Planned Grazing Systems; Windbreak Renovation; Irrigation Water Management; Repair Practices; Variable Flow Tailwater Recovery; Buried Pipe (From well to Pivot Point, only converting Gravity System to Pivot); New Well Incentive Option.

### **WATER QUALITY PRACTICES:**

Gates and Gaskets for Irrigation Pipe; Low Angle Sprinklers or Drop Nozzles (with NRCS design regulators); Replacement Pads for Irrigation Wells; Chemical & Fertilizer Applicator Control Systems; Deep Soil Sampling I (Nitrate Only) Deep Soil Sampling II (Complete Soil Analysis).

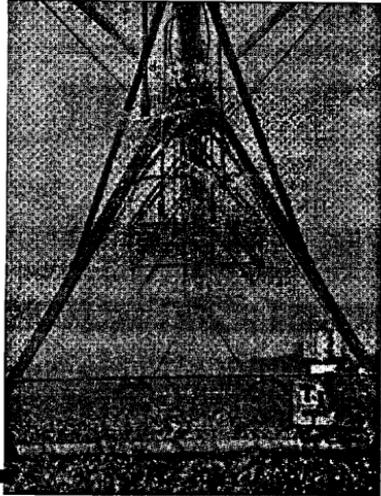
## **LBNRD ENTERS INTO INTERLOCAL AGREEMENT**

The Little Blue NRD has entered into an interlocal agreement with Upper Big Blue NRD to develop a multi-layer, finite difference groundwater model for the purpose of simulating where groundwater is hydrologically connected to streams within the LBNRD.

Upper Big Blue's Project Engineer Jay Bitner will be conducting the activities in determining where base-flow streams are hydrologically connected to the underlying aquifer. He will determine where the 10% in 50-year line runs for the Little Blue River Basin.

This model will aid the district in future reviews by the Department of Natural Resources in determining any appropriations of groundwater throughout the basin.

The cost of the study will not exceed \$35,000 and should be completed in the fall of 2006.



## **PRESCRIBED BURN SCHOOL TO BE HELD**



A demonstration burn will be conducted in Fillmore County sometime in late February or March depending upon the weather and a prescribed burn seminar will follow this spring around the middle of April in Edgar.

The Little Blue NRD and Rainwater Joint Venture's Wetland Program Consultant Tim Horst is lining up the program.

The Seminar will target habitat enhancement, cedar control and other topics while the afternoon session will be a wild land firefighter training.

If you are interested please contact Tim Horst at 402-364-3135

## NATURAL RESOURCES DISTRICTS EDUCATOR OF THE YEAR AWARD

The purpose of the Natural Resources Educator of the year contest is to recognize the Outstanding Natural Resources education efforts in our state.

Elementary (grades K-6) and secondary (grades 7-12) educators will be recognized in separate categories. All teachers in public, parochial and private schools in Nebraska may participate.

To be Eligible:

- Educators must be teaching full-time in the classroom and be personally responsible for developing a natural resource education program.
- A candidate's nomination must be endorsed by their Natural Resources District (Little Blue) in which he or she is teaching.
- Team teachers are eligible, but awards will only be made to the designated leader.
- Educators may only qualify for this award once every 10 years.
- Educators who submit an entry and do not win the award may resubmit their entries the following year.

**DEADLINES: MAY 1st - Nominations must be submitted to the teacher's local NRD (Little Blue).**

Teachers can nominate themselves, or ask the LBNRD or NRCS to submit their nomination.

Winners will be honored in both categories at the Annual Nebraska Association of Resources Districts Conference held in September. For an application form please call or write to Marlene Faimon, Little Blue NRD, P.O. Box 100, Davenport, NE 68335, 402-364-2146.

### Continued from page 1:

In the Departments report, "2006 Annual Evaluation of Availability of Hydrologically Connected Water Supplies" their view of the remaining Little Blue Basin states the following:

There is no evidence that current ground water depletions to streamflow in the Basin are affecting surface water users sufficiently to meet the criteria for being fully appropriated when compared to the amount of surface water available at the present time.

There is not sufficient data available at this time to determine the lag impact over the next 25 years; however, due to the fact that the number of days in which surface water was available for diversion far exceeds the number of days required to meet the net corn crop irrigation requirements, it is unlikely that any lag impact could sufficiently affect the streamflow to lower the number of days in which surface water was available for diversion below the criteria for being fully appropriated.

Based upon available information and its evaluation, the Department has reached a determination that the Basin is not fully appropriated. The Department has also determined that even if no additional legal constraints are imposed on future development of hydrologically connected surface water and ground water and reasonable projections are made about the extent and location of future development, this conclusion would not change.

## 2006 HANDPLANT ORDER FORM

Indicate your order by completing the form below. Fill in the number requested of each species, compute payment from total. Please be sure the form is accurately filled out. Planting services are available for windbreaks, windbreak renovations, wildlife habitat, weed barrier installation and cost share may be available also. Please contact your local Natural Resources Conservation Service if you would like assistance in planning or planting your windbreak. Note due to Scotch Pine disease in the area we will not be offering this species this year. **Cut out and mail with payment to the LBNRD.**

<b>Name:</b> _____  <b>Address:</b> _____  <b>City</b> _____ <b>Zip:</b> _____  <b>County:</b> _____  <b>Phone:</b> _____  <b>Pick Up Trees at NRD or NRCS</b> _____	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Trees</td> <td style="width: 20%;">(\$0.65)</td> <td style="width: 30%; text-align: right;">_____</td> </tr> <tr> <td>Squares</td> <td>(\$1.21)</td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td>Staples</td> <td>(\$0.11)</td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td>Handling / Wrapping</td> <td></td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td>Subtotal</td> <td></td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td>Sales Tax (5.5%)</td> <td></td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td><b>Amount Due:</b></td> <td></td> <td style="text-align: right;"><b>\$ _____</b></td> </tr> </table>	Trees	(\$0.65)	_____	Squares	(\$1.21)	\$ _____	Staples	(\$0.11)	\$ _____	Handling / Wrapping		\$ _____	Subtotal		\$ _____	Sales Tax (5.5%)		\$ _____	<b>Amount Due:</b>		<b>\$ _____</b>
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Handling / Wrapping		\$ _____																				
Subtotal		\$ _____																				
Sales Tax (5.5%)		\$ _____																				
<b>Amount Due:</b>		<b>\$ _____</b>																				

### Broadleaf Trees

- \_\_\_\_\_ Bur Oak
- \_\_\_\_\_ Red Oak
- \_\_\_\_\_ Swamp White Oak
- \_\_\_\_\_ Black Cherry
- \_\_\_\_\_ Green Ash
- \_\_\_\_\_ Russian Olive
- \_\_\_\_\_ Crabapple
- \_\_\_\_\_ Hackberry
- \_\_\_\_\_ Honeylocust
- \_\_\_\_\_ Cottonwood
- \_\_\_\_\_ Silver Maple

### Shrubs

- \_\_\_\_\_ Caragana
- \_\_\_\_\_ Cotoneaster
- \_\_\_\_\_ Lilac
- \_\_\_\_\_ Honeysuckle
- \_\_\_\_\_ Chokecherry
- \_\_\_\_\_ Nanking Cherry
- \_\_\_\_\_ Am. Plum
- \_\_\_\_\_ S. Sumac
- \_\_\_\_\_ Sand Cherry
- \_\_\_\_\_ Golden Currant
- \_\_\_\_\_ S. Buffaloberry

### Conifers

- \_\_\_\_\_ Red Cedar
- \_\_\_\_\_ Co. Blue Spruce
- \_\_\_\_\_ Ponderosa Pine
- \_\_\_\_\_ Austrian Pine
- \_\_\_\_\_ Jack Pine
- \_\_\_\_\_ Douglas Fir

Just a reminder to till tree sites. The District will do rototilling for  
 \$25 an hour with a minimum of \$50 upon request.  
 The deadline to order trees for all District plantings is April 1, 2006.

## CALENDAR

- Feb., 20, President Day—Office Closed
- Feb., 21, Water Conference—Hastings
- Feb., 23, RWBJV Meeting—Hastings
- March 14, NRD Board Meeting, Davenport

## NEED TO CONTACT US

Little Blue Natural Resources District  
P.O. Box 100, 100 East First Street  
Davenport, NE 68335  
Phone: (402) 364-2145 FAX: (402) 364-2484

VISIT US ON THE WEB: [www.littlebluenrd.org](http://www.littlebluenrd.org)

## LBNRD Rural Water Projects

- Project Manager: Kevin Orvis
- Rural Water Superintendent: Bruce Dux
- Rural Water Assistant: Richard Dux
- Clerk: Paula Schultz

## LBNRD STAFF

Michael Ormen — General Manager  
Daryl Andersen — Water Resources Specialist  
Marlene Fainon — Programs Manager/  
Out of the Blue Editor  
Marie Herbek — Administrative Secretary  
Ruth Ollerich — District Secretary  
Kevin Orvis — Water Resources Specialist  
Kent Thompson — Operations Supervisor  
Greg Bures — Resources Technician  
Tim Horst — Wetland Program Consultant

## FIELD OFFICES

Adams County NRCS Secretary — Deb Ellis  
Clay County NRCS Secretary — Marita Rickman  
Fillmore County NRCS Secretary — Sylvia Jiraden  
Jefferson County NRCS Secretary — Paula Schull  
NRD/NRCS Technician — James Benahan  
Nuckolls County NRCS Secretary — Marvin Rees  
Thayer County NRCS Secretary — Jans Tietjen  
Webster County NRCS Secretary — Lynetta Spelling

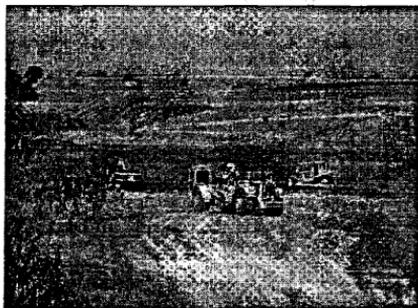
## BOARD OF DIRECTORS

Sub-District 1: Bill Johnson, Hopland  
Sub-District 1a: Jerrad Strub, Juniata  
Sub-District 2: Diane Beachly, Hastings  
Sub-District 2a: Charles Rainford, Hastings  
Sub-District 3: Edward Peharty, Hastings  
Sub-District 3a: Jason Reiner, Hastings  
Sub-District 4: Ross Fisher, Fairfield  
Sub-District 4a: Duane Schliep, Clay Center  
Sub-District 5: Richard Kahman, Fairfield  
Sub-District 6: Bryan Skalko, Dewesse  
Sub-District 6a: Lyle Heinrich, Shickley  
Sub-District 6b: Jon Licht, Shickley  
Sub-District 7: Joseph Hergott, Hebron  
Sub-District 7a: Tim Pohlmann, Dehler  
Sub-District 8: James Cunningham, Fairbury  
Sub-District 8a: Gene Thomas, Fairbury  
At Large: Weyan Wright, Hastings

## **NAME THE LAKE CONTEST**

The District held a "Name the Lake" contest for Little Sandy Creek watershed Dam Site 61 in Fillmore County in November. The Little Blue NRD Board of Directors chose "Lonestar" which was submitted by Shariene Most of Ohiowa and Lois Pribyl of Friend. They both received a gift certificate to "Evening with Friends" in Milligan. The District received eight entries.

According to Sharlene and Lois there was a country school located just southwest of the dam site in Fillmore County. The LBNRD intends to explain the history of the school on an information sign at the Lake.



## Well Drilling Activities

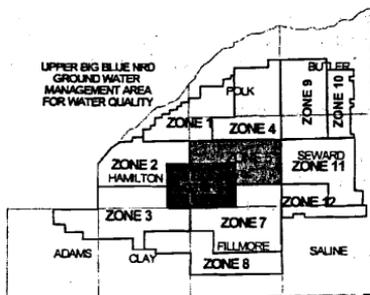
Two hundred and nine permits were issued for irrigation wells (159 new & 50 replacement) in 2005. At the end of 2005 there were 11,837 active irrigation wells in the District.

## Ground Water Level Changes

The average groundwater level change for the District from Spring 2005 to Spring 2006 was a decline of 0.87 feet. This is the sixth consecutive year of declines totaling 11.21 feet. The attached map shows the area of greatest changes and the county averages. With this change, the average ground water level is 2.48 feet above the allocation trigger. The District average groundwater level fell below the reporting trigger by 0.52 feet. The Board will consider a resolution to begin certification of irrigated acres by the end of 2006 and annual groundwater withdrawal reporting beginning in 2007.

## Groundwater Nitrates

The district is divided into twelve management zones for ground water quality management. The primary ground water quality management concern is nitrate. Ten township area York County and two townships in Hamilton County (Zones 5 & 6) was designated a Phase II management area to address increased ground water nitrate levels. The 2005 median ground water nitrate level in Zone 5 is 11.0 ppm and 9.1 ppm in Zone 6. The trigger level for phase II management is 9 ppm. Phase II management requires farm operators to attend a training session on best management practices related to fertilizer and irrigation management. It also requires deep (36") soil sampling, irrigation scheduling and annual BMP reports. The rest of the district remains in phase I management for groundwater nitrates. Under phase I management the application of anhydrous ammonia may not occur until November 1, while application of dry and liquid nitrogen fertilizers must wait until March 1.



## CROP-TIP

CROP-TIP is an irrigation demonstration sponsored by The District and Cornerstone Bank near York. The purpose of the project is to show producers ways to reduce groundwater withdrawal through improvements in irrigation scheduling. Corn was grown in the demonstration field. The irrigation method used at this location is gated pipe. In 2005, which was the second year of the three year project, 14.8 inches was applied to the unlimited irrigation plots while 10.8 inches was applied to the limited irrigation plots. The yields were 224.9 bu./ac. For the unlimited plots and 225.8 bu./ac. for the limited plots. The corn crop for year three has been planted. The District is also expanding the concept of the project to 3 more fields in 2006 (one in Hamilton and 2 in

Fillmore counties.) In these demonstrations we will look as ways to reduce water use under center pivots for corn, seed corn and soybeans.

#### Nebraska Agricultural Water Management Demonstration Network

This is another program to encourage producers improve irrigation scheduling using ETgages and Watermark sensors to determine crop water use. The Etgage simulates crop water use through evaporation through ceramic and green canvas membrane. Watermark sensors are used to measure soil moisture in a nearby field to confirm the ETgage's accuracy. The NRD is cost-sharing 50% up to \$300 for 40 producers for this equipment. The data collected will be posted on the NRD website weekly for other producers to use in their irrigation scheduling.

#### Flow meter cost-share

On the April 17, 2006 the Nebraska Environmental Trust awarded the Upper Big Blue NRD \$900,000 over the next three years for an irrigation water management project intended to encourage irrigators to install flow meters. The cost-share will be limited to one meter per land owner.

#### Groundwater Modeling

The District recently competed a groundwater model for the western part of the NRD to provide the DNR information concerning the groundwater surface water relationship along the Districts border with the Platte River. The District has begun work on groundwater modeling of the remainder of the District and has entered into agreements with the Little Blue and Lower Big Blue NRDs to include those Districts in the modeling effort.

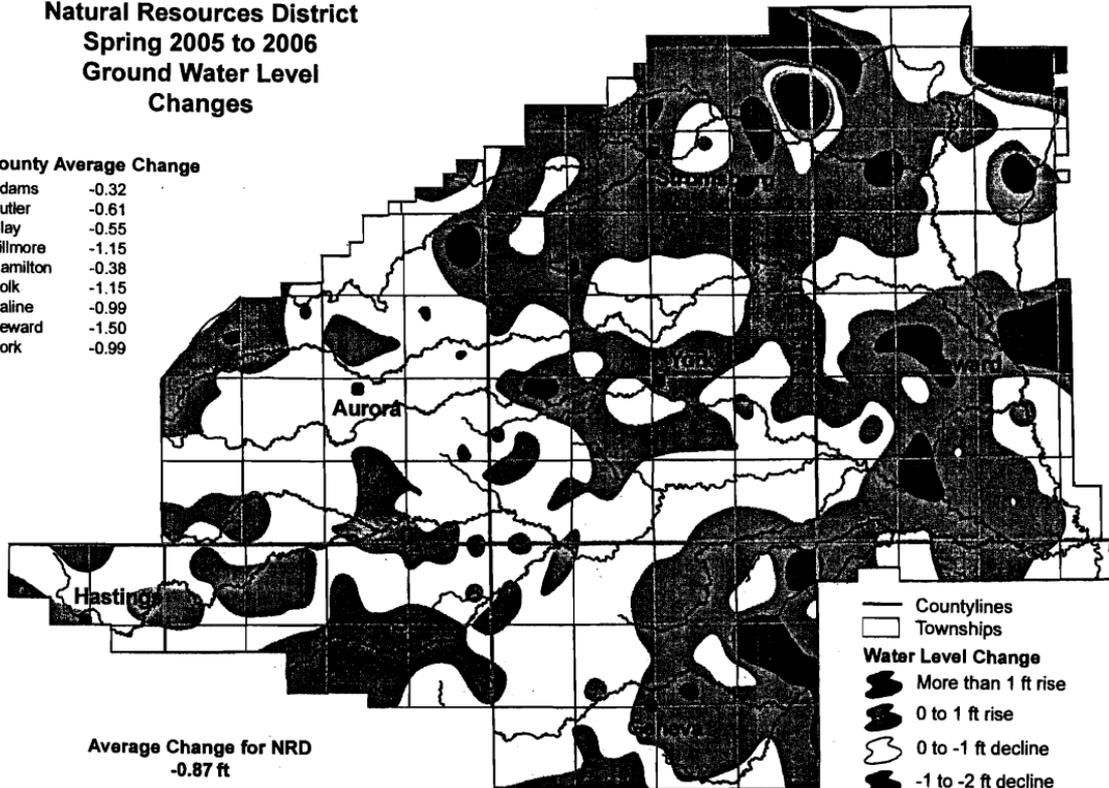
#### Kezan Creek Project

The Kezan Creek Project is a proposed dam and reservoir in Butler County near the village of Garrison. The District is currently pursuing funding from the State Resources Development Fund. The watershed above the reservoir site is 40.7 square miles in size. The proposed permanent pool is 250 surface acres with a storage volume of 1,274 acre feet. The estimated project cost is \$5.5 million.

**Upper Big Blue  
Natural Resources District  
Spring 2005 to 2006  
Ground Water Level  
Changes**

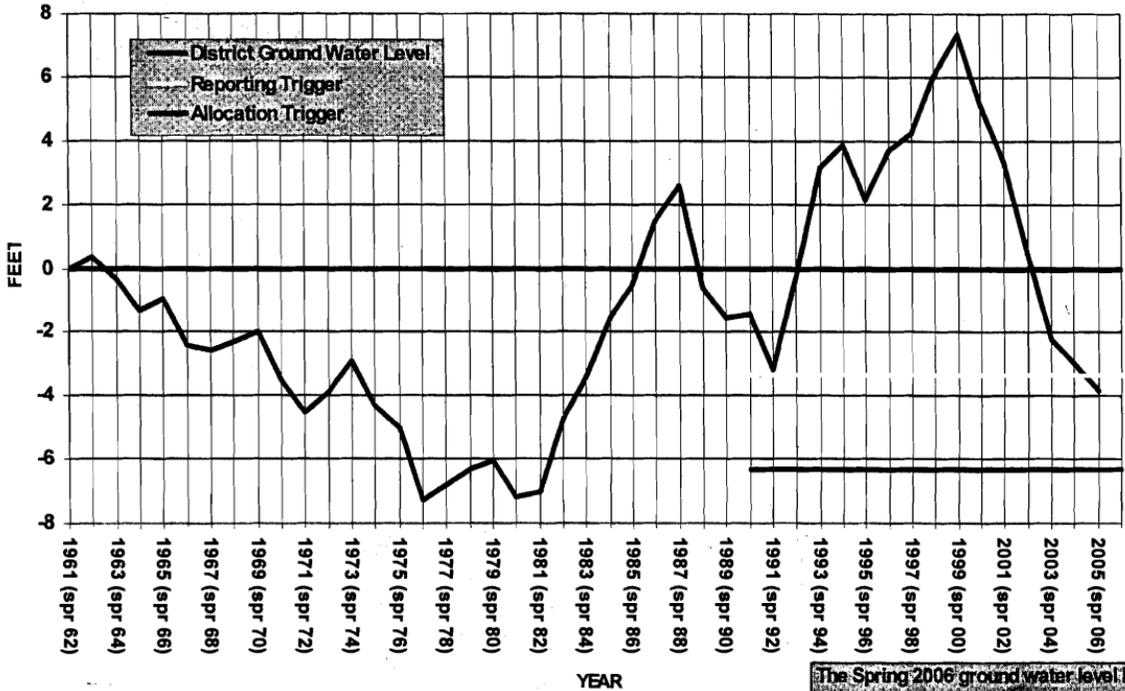
**County Average Change**

Adams	-0.32
Butler	-0.61
Clay	-0.55
Fillmore	-1.15
Hamilton	-0.38
Polk	-1.15
Saline	-0.99
Seward	-1.50
York	-0.99



**Average Change for NRD  
-0.87 ft**

**UPPER BIG BLUE NRD - AVERAGE GROUND WATER LEVELS**  
**TRIGGERS COMPARED TO HISTORIC LEVELS**  
**SPRING 2006**



The Spring 2006 ground water level is 0.52 ft. below the reporting trigger and 2.48 ft. above the allocation trigger

**KANSAS-NEBRASKA BIG BLUE RIVER COMPACT REPORT**  
**U.S. Geological Survey—Water Year 2005**

The U.S. Geological Survey (USGS) continues to operate two streamflow gaging stations for the Compact Administration—Big Blue River at Barneston, NE (06882000), and Little Blue River at Hollenberg, KS (06884025). An electronic data logger (EDL) at each station automatically records streamflow stage every 30 minutes. These instantaneous values are transmitted via GOES satellite to USGS offices, where they are used to compute preliminary values of instantaneous and daily discharge that are immediately posted to the Web (addresses shown below). Before the data are finalized, updates and revisions are made as needed, based on a series of quality checks and reviews. Finalized values of daily discharge and summary statistics are now published annually on a site-by-site basis on a national Web page (addresses shown below).

During water year (WY) 2005 (October 1, 2004 to September 30, 2005), periodic visits were made to the stations to maintain and calibrate the sensing and recording equipment, make discharge measurements, and download the data directly from the EDLs, as a backup to the satellite data. The discharge measurements were used to determine shifts from the stage-discharge relations (rating curves) that were then used to convert stage values to corresponding values of discharge.

For **Big Blue River at Barneston**, 10 discharge measurements ranging from 75.5 ft<sup>3</sup>/s at a stage of 3.26 ft to 7,720 ft<sup>3</sup>/s at a stage of 12.39 ft were made. The WY 2005 annual mean discharge of 376 ft<sup>3</sup>/s was less than the 576 ft<sup>3</sup>/s for WY 2004, and less than the 855 ft<sup>3</sup>/s mean discharge for the prior period of record (WYs 1933–2004). The maximum and minimum daily discharges during WY 2005 were 9,430 ft<sup>3</sup>/s on May 17 and 54 ft<sup>3</sup>/s on July 15. New record daily maximums were set May 16–18. The annual seven-day minimum flow (lowest average flow for seven consecutive days) was 64 ft<sup>3</sup>/s for the period beginning July 11.

For **Little Blue River at Hollenberg**, 11 discharge measurements ranging from 64.6 ft<sup>3</sup>/s at a stage of 2.00 ft to 195 ft<sup>3</sup>/s at a stage of 2.54 ft were made. The WY 2005 annual mean discharge of 224 ft<sup>3</sup>/s was less than the 330 ft<sup>3</sup>/s for WY 2004 and the 516 ft<sup>3</sup>/s mean discharge for the prior period of record (WYs 1975–2004). The maximum and minimum daily discharges during WY 2005 were 2,850 ft<sup>3</sup>/s on July 27 and 43 ft<sup>3</sup>/s on July 13. Record daily minimums were set for January 5 and July 6–17 and 21. The annual seven-day minimum flow was 47 ft<sup>3</sup>/s for the period beginning July 11.

For each of the State delegations and the Compact chairman, copies of the WY 2005 published data (manuscript, discharge daily values, statistics tables, and discharge hydrograph) from Water-Data Report NE–2005 are attached for each station. PDF files of the WY 2005 published data are available online at <http://pubs.usgs.gov/wdr/2005/search.php> via the MAPPER interface. In the future, these data should also be available at <http://water.usgs.gov/pubs/wdr/> where the WY 2002–2004 data are published. Also attached are plots of the annual mean discharges for the periods of record, and plots of the daily discharges for WY 2005 compared to those for the lowest and highest years on record and to the historic minimum, median, and maximum values for each day of the year.

Current (real-time) and historic data on surface water, ground water, and water quality for the Nation can be downloaded via the general Water Resources website (<http://water.usgs.gov/>) or from the National Water Information System Web (NWISWeb) website (<http://waterdata.usgs.gov/nwis/>). Daily, monthly, and annual streamflow statistics are also available from NWISWeb. Real-time data—up to 31 days of unit values or 18 months of daily values—for Nebraska and nearby sites (including both Compact stateline streamflow sites) can also be accessed from the USGS Nebraska Water Science Center website (<http://ne.water.usgs.gov/>).

Phil Soenksen  
Chief, Hydrologic Data Section  
May 10, 2006



Water-Data Report NE-2005

**06882000 BIG BLUE RIVER AT BARNESTON, NE**

KANSAS RIVER BASIN

LOCATION.—Lat 40°02'41", long 96°35'14", in NE ¼ NW ¼ sec.24, T.1 N., R.7 E., Gage County, Hydrologic Unit 10270202, on right bank at right downstream end of bridge on State Highway 8, 0.6 mi southwest of Barneston, 1.3 mi upstream from Plum Creek, and 4.3 mi upstream from Nebraska-Kansas State line.

DRAINAGE AREA.—4,447 mi<sup>2</sup>, of which 77 mi<sup>2</sup> probably is noncontributing.

**WATER-DISCHARGE RECORDS**

PERIOD OF RECORD.—May 1932 to current year.

REVISED RECORDS.—WSP 896: 1932, 1935. WSP 1919: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 1,162.2 ft above sea level. Prior to June 9, 1941, water-stage recorder at site 0.3 mi downstream at datum 1.56 ft higher. June 9 to Nov. 17, 1941, non-recording gage and Nov. 18, 1941 to Sept. 30, 1979, water-stage recorder at site 0.7 mi upstream at datum 2.0 ft higher. Data collection platform at station.

REMARKS.—Records good except for estimated daily discharges, which are poor. Low flow regulated by dam at unused power plant 0.7 mi upstream. No large tributaries between station and Nebraska-Kansas State line. Some pump diversions for irrigation above station. Natural flow of stream affected by ground-water withdrawals for irrigation and return flow from irrigated areas.

## Water-Data Report NE-2005

## 06862000 BIG BLUE RIVER AT BARNESTON, NE—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005**  
**DAILY MEAN VALUES**  
 [e. estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	98	112	156	196	e177	199	192	255	351	209	421	189
2	104	123	152	183	e184	192	183	238	336	212	313	405
3	114	143	160	e179	e191	191	181	226	842	244	242	1,660
4	105	149	154	e151	e206	189	179	218	691	193	186	1,120
5	99	131	163	e147	e221	183	179	211	693	163	152	641
6	94	125	185	e147	e257	185	271	207	569	149	137	392
7	97	118	180	e151	e232	182	314	204	553	120	119	302
8	100	115	175	e159	e221	174	288	203	571	100	100	232
9	96	119	174	e162	e209	173	221	201	474	96	80	197
10	95	121	173	e174	e236	173	202	192	643	91	76	169
11	95	127	168	e176	e244	167	204	225	1,750	80	82	147
12	95	121	167	e176	272	164	411	2,420	1,040	74	104	156
13	93	122	159	e166	940	164	597	3,250	964	64	538	159
14	90	126	e150	e150	1,190	164	377	1,970	1,150	58	2,520	161
15	86	135	e148	e140	703	163	294	4,800	872	54	1,070	175
16	83	140	150	e135	489	164	283	7,690	659	57	594	159
17	90	144	155	e141	439	169	266	9,430	561	61	364	137
18	92	146	167	e147	392	168	243	5,160	476	86	255	126
19	90	152	e156	e149	377	163	436	2,160	408	101	219	121
20	91	151	e167	e157	356	161	792	1,640	361	103	220	115
21	97	146	e180	e154	320	169	785	1,230	325	103	182	112
22	100	150	e163	e159	290	196	1,540	858	298	104	170	107
23	97	150	e155	e176	269	194	1,480	673	268	108	179	101
24	95	148	e156	e181	249	202	1,040	557	239	107	409	99
25	92	148	e163	e181	231	206	695	489	230	85	308	97
26	94	150	e185	e175	218	203	503	439	277	487	363	92
27	99	155	185	e178	214	202	401	406	246	1,660	358	90
28	107	152	183	e171	206	199	344	382	205	1,260	236	92
29	110	158	178	e173	—	201	305	361	175	1,290	225	89
30	103	159	184	e174	—	202	277	341	284	1,050	286	89
31	98	—	200	e171	—	203	—	329	—	667	243	—
Total	2,999	4,136	5,191	5,080	9,533	5,665	13,483	46,965	16,511	9,236	10,751	7,731
Mean	96.7	138	167	164	340	183	449	1,515	550	298	347	258
Max	114	159	200	196	1,190	206	1,540	9,430	1,750	1,660	2,520	1,660
Min	83	112	148	135	177	161	179	192	175	54	76	89
Ac-ft	5,950	8,200	10,300	10,080	18,910	11,240	26,740	93,160	32,750	18,320	21,320	15,330

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2005, BY WATER YEAR (WY)

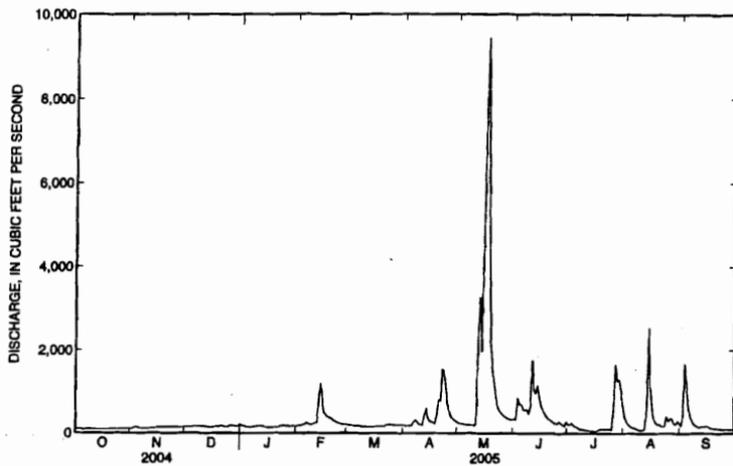
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	531	306	238	284	630	1,335	842	1,301	2,026	1,303	682	695
Max	7,451	1,526	851	1,596	2,876	10,560	5,280	5,207	10,460	12,270	5,227	3,420
(WY)	(1974)	(1999)	(1998)	(1973)	(1984)	(1979)	(1984)	(1995)	(1951)	(1993)	(1954)	(1989)
Min	61.5	77.5	87.4	67.6	116	137	132	96.0	69.3	30.7	21.1	50.6
(WY)	(1941)	(1937)	(1977)	(1937)	(1940)	(1968)	(1934)	(1934)	(1934)	(1934)	(1934)	(1939)

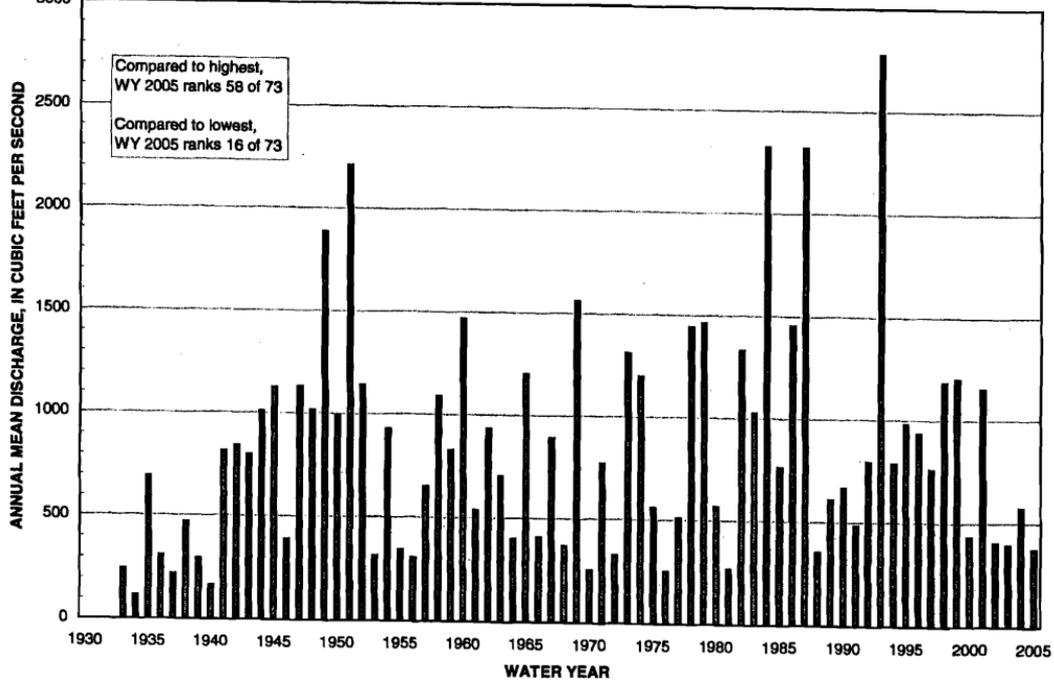
Water-Data Report NE-2005

06822000 BIG BLUE RIVER AT BARNESTON, NE—Continued

SUMMARY STATISTICS

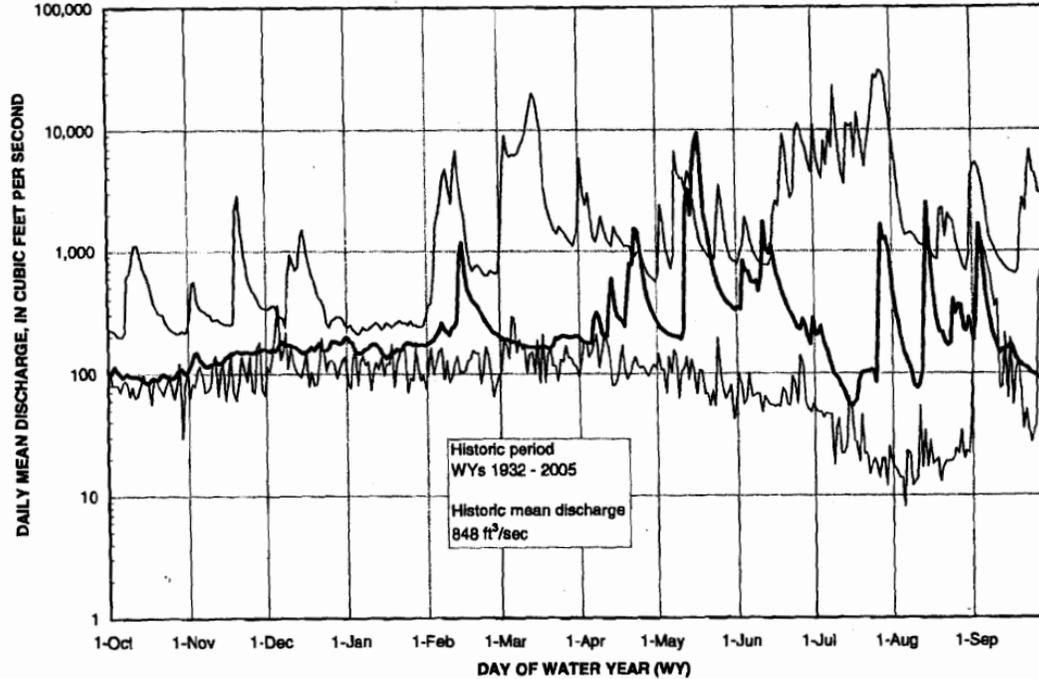
	Calendar Year 2004		Water Year 2005		Water Years 1933 - 2005	
Annual total	206,985		137,281			
Annual mean	566		376		848	
Highest annual mean					2,781	1993
Lowest annual mean					115	1934
Highest daily mean	17,900	May 30	9,430	May 17	50,000	Jun 9, 1941
Lowest daily mean	83	Oct 16	54	Jul 15	1.0	Nov 30, 1945
Annual seven-day minimum	89	Oct 14	64	Jul 11	15	Aug 3, 1934
Maximum peak flow			9,740	May 17	57,700	Jun 9, 1941
Maximum peak stage			14.05	May 17	34.30	Jun 9, 1941
Annual runoff (ac-ft)	410,600		272,300		614,500	
10 percent exceeds	1,100		680		1,740	
50 percent exceeds	180		180		275	
90 percent exceeds	104		97		105	







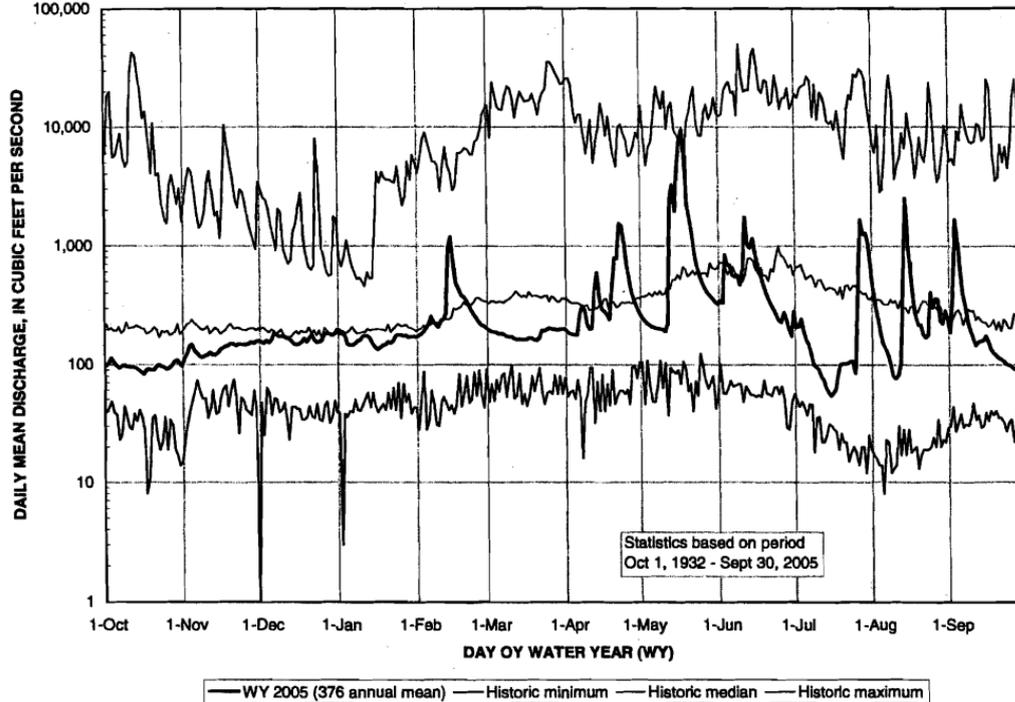
06882000 Big Blue River at Barneston, NE



— WY 2005 (376 annual mean) — Historic low WY 1934 (115 annual mean) — Historic high WY 1993 (2,781 annual mean)



06882000 Big Blue River at Barneston, NE





Water-Data Report NE-2005

**06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS**

KANSAS RIVER BASIN

LOCATION.--Lat 39°58'49", long 97°00'17", in NE ¼ SW ¼ sec.8, T.1 S., R.4 E., WASHINGTON County, Hydrologic Unit 10270207, on right bank 2 ft downstream from bridge on county road, 0.6 mi west of Hollenberg, 1.75 mi downstream from Nebraska-Kansas State line, and at mile 43.1.

DRAINAGE AREA.--2752.00 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

PERIOD OF RECORD.--March 1973 to February 1974 (discharge measurements only), March 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,216.10 ft above sea level. Data collection platform at station.

REMARKS.--Records good except for estimated daily discharges, which are poor. Discharge measurements made prior to 1974 water year are published in table of miscellaneous sites in WDR NE-73.

## Water-Data Report NE-2005

## 06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS—Continued

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

[a, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	69	93	114	e117	e151	144	147	212	167	117	224	191
2	64	105	105	e117	e153	143	148	203	152	121	161	921
3	64	95	105	e114	e162	141	145	197	201	109	116	1,070
4	71	92	118	101	e178	139	157	194	240	104	91	343
5	71	91	123	76	e197	138	164	189	209	97	77	212
6	73	95	128	e114	e232	138	359	189	176	89	72	171
7	78	95	126	e136	e222	136	277	186	158	79	78	526
8	78	94	121	e142	e181	135	218	183	164	69	76	899
9	73	96	121	e141	e166	139	212	180	207	64	77	396
10	72	100	118	e138	e157	154	188	176	851	62	68	237
11	81	102	116	e139	e180	136	214	399	1,030	59	63	175
12	88	99	116	e141	215	135	313	1,180	600	47	77	145
13	82	99	111	e138	318	135	509	465	463	43	1,090	129
14	79	104	100	e133	270	134	451	817	434	44	1,430	117
15	74	106	83	e138	212	135	314	1,200	360	46	750	106
16	73	108	106	e141	190	135	256	941	300	45	370	102
17	76	110	108	e141	179	135	241	687	268	46	228	97
18	74	110	113	e142	173	133	225	509	236	59	194	94
19	74	115	111	e143	171	133	668	389	225	60	392	91
20	73	113	99	e144	167	134	1,900	329	194	52	504	87
21	76	111	e103	e148	161	145	1,210	282	165	54	520	85
22	86	116	e107	e141	159	187	1,280	247	157	59	512	102
23	83	128	e100	e143	154	196	602	218	162	69	923	69
24	81	131	e102	e142	149	165	425	197	183	70	996	74
25	80	130	e106	e139	149	186	323	182	221	54	1,110	77
26	83	129	e109	e141	149	175	281	171	211	419	646	77
27	86	133	e112	e138	148	165	257	163	171	2,850	634	74
28	88	126	e113	e136	146	158	249	157	142	1,280	462	84
29	89	128	e116	e137	—	155	242	153	123	746	337	67
30	86	129	e120	e144	—	152	227	149	135	460	269	66
31	83	—	e118	e149	—	151	—	153	—	307	225	—
Total	2,408	3,283	3,448	4,154	5,089	4,587	12,202	10,897	8,305	7,780	12,772	6,884
Mean	77.7	109	111	134	182	148	407	352	277	251	412	229
Max	89	133	128	149	318	196	1,900	1,200	1,030	2,850	1,430	1,070
Min	64	91	83	76	146	133	145	149	123	43	63	66
Ac-R	4,780	6,510	6,840	8,240	10,090	9,100	24,200	21,610	16,470	15,430	25,330	13,650

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2005, BY WATER YEAR (WY)

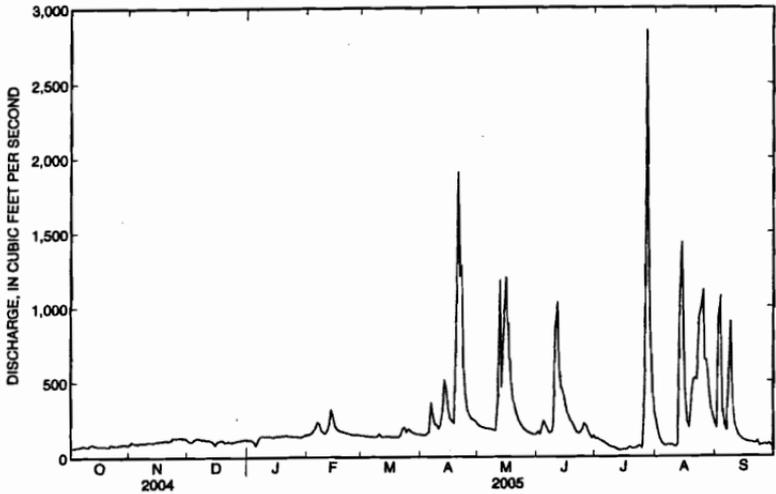
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	297	236	177	172	316	766	517	790	960	972	494	368
Max	2,163	1,113	424	576	1,059	3,816	2,379	2,302	4,373	9,014	2,572	1,320
(WY)	(1987)	(1997)	(1993)	(1984)	(1993)	(1993)	(1987)	(1995)	(1984)	(1993)	(1985)	(1977)
Min	45.3	81.1	96.7	98.5	115	118	123	108	151	83.8	72.5	32.0
(WY)	(1992)	(1992)	(2001)	(1977)	(1992)	(1981)	(2003)	(1992)	(1981)	(2002)	(1991)	(1991)

Water-Data Report NE-2005

0680425 LITTLE BLUE RIVER AT HOLLENBERG, KS—Continued

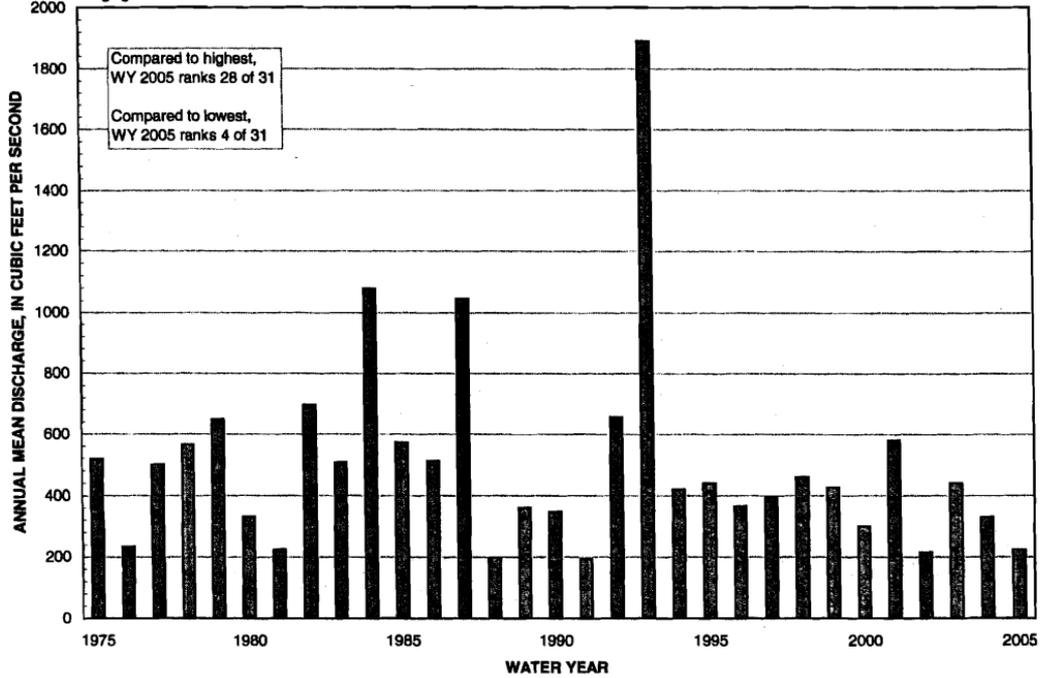
SUMMARY STATISTICS

	Calendar Year 2004		Water Year 2005		Water Years 1975 - 2005	
Annual total	119,285		81,809		507	
Annual mean	326		224		1,891	
Highest annual mean					195	
Lowest annual mean					1991	
Highest daily mean	6,990	Jun 16	2,850	Jul 27	39,300	Jul 26, 1992
Lowest daily mean	40	Sep 20	43	Jul 13	26	Oct 1, 1991
Annual seven-day minimum	49	Sep 14	47	Jul 11	27	Sep 27, 1991
Maximum peak flow			5,000	Jul 26	47,800	Jul 26, 1992
Maximum peak stage			13.52	Jul 26	21.21	Jul 26, 1992
Annual runoff (ac-ft)	236,600		162,300		367,000	
10 percent exceeds	559		461		840	
50 percent exceeds	141		141		199	
90 percent exceeds	74		74		104	



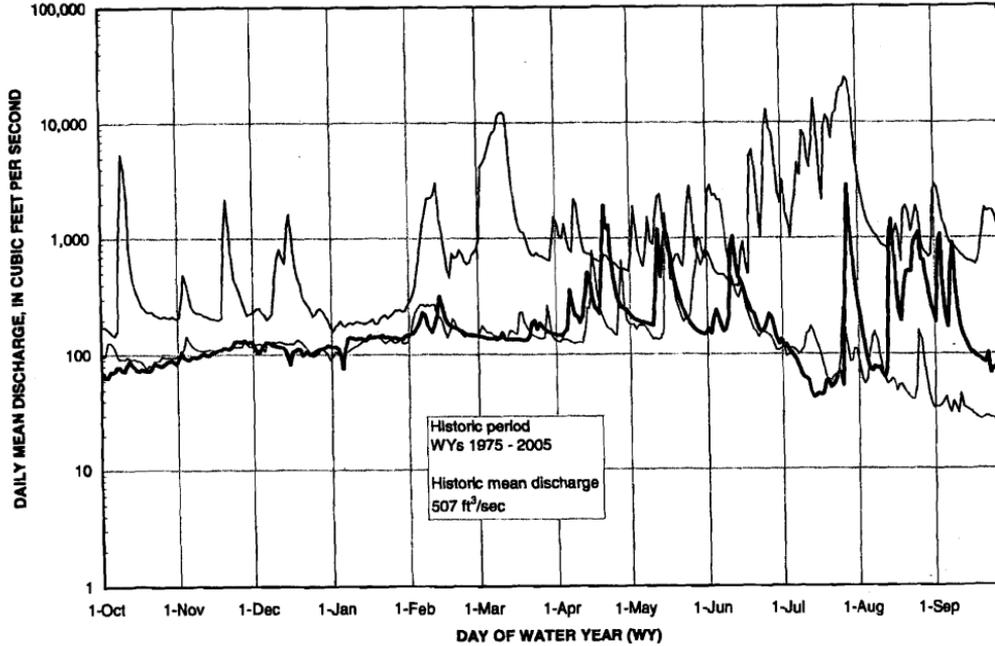


06884025 Little Blue River at Hollenberg, KS





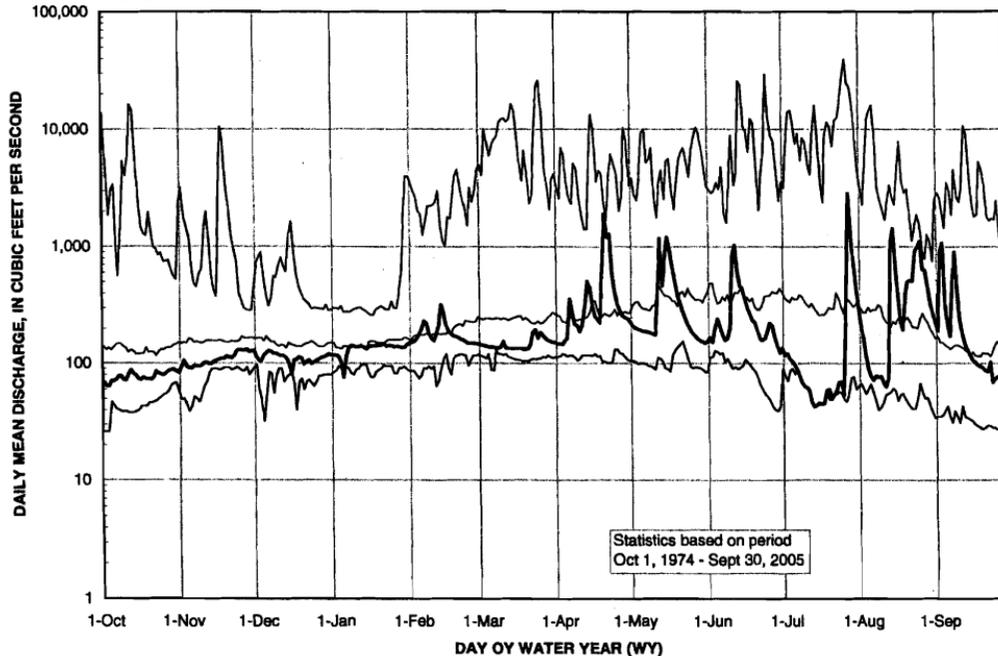
06884025 Little Blue River at Hollenberg, KS



— WY 2005 (224 annual mean) — Historic low WY 1991 (195 annual mean) - - - Historic high WY 1993 (1,891 annual mean)



06884025 Little Blue River at Hollenberg, KS



— WY 2005 (224 annual mean) — Historic minimum — Historic median — Historic maximum

<b>BIG BLUE RIVER COMPACT BUDGET ANALYSIS May 2006</b>							
	FY2005		FY 2006		FY 2007		FY 2008
	Actual	Adopted May 2004	Estimated (To Date)	Adopted May 2005	Estimated May 2005	Adopted May 2006	Estimate
<b>EXPENDITURES</b>							
Operations							
Stational Gages	\$12,840.00	\$12,420.00	\$13,480.00	\$13,480.00	\$14,000.00	\$14,000.00	\$14,500.00
Observation Wells	\$1,380.00	\$1,480.00	\$700.00	\$760.00	\$760.00	\$700.00	\$760.00
Water Quality Committee	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Fidelity Bond	\$0.00	\$100.00	\$0.00	\$100.00	\$100.00	\$100.00	\$100.00
Secretary Honorarium	\$750.00	\$750.00	\$750.00	\$750.00	\$750.00	\$750.00	\$750.00
Staff Travel Expenses	\$177.81	\$200.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00
Annual report	\$150.00	\$500.00	\$150.00	\$200.00	\$200.00	\$200.00	\$200.00
Annual Audit	\$700.00	\$500.00	\$700.00	\$700.00	\$700.00	\$700.00	\$700.00
Postage and Office Supplies	\$52.08	\$100.00	\$82.43	\$100.00	\$100.00	\$100.00	\$100.00
Miscellaneous Expenses	\$9.50	\$100.00	\$0.00	\$100.00	\$100.00	\$100.00	\$100.00
<b>Total Expenses</b>	<b>\$16,059.39</b>	<b>\$16,150.00</b>	<b>\$15,912.43</b>	<b>\$16,240.00</b>	<b>\$16,780.00</b>	<b>\$16,700.00</b>	<b>\$17,260.00</b>
<b>INCOME &amp; CARRY OVER</b>							
Assessments (Both States)	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00	\$16,000.00
Interest earned	\$228.24	\$150.00	\$525.89	\$200.00	\$500.00	\$500.00	\$500.00
Carry Over from Prior Year	\$15,168.32	\$14,649.92	\$15,337.17	\$14,913.64		\$15,950.43	\$15,750.43
<b>Total Income and Carry Over</b>	<b>\$31,396.56</b>	<b>\$30,799.92</b>	<b>\$31,862.86</b>	<b>\$31,113.64</b>		<b>\$32,450.43</b>	<b>\$32,250.43</b>
<b>Balance End of Year</b>	<b>\$15,337.17</b>	<b>\$14,649.92</b>	<b>\$15,950.43</b>	<b>\$14,873.64</b>		<b>\$15,750.43</b>	<b>\$14,990.43</b>

**REPORT OF THE TREASURER  
TO THE  
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION  
May 11, 2005**

Balance on Hand July 1, 2004	<b>\$15,337.17</b>
Income to Date	
State Assessments	<b>\$16,000.00</b>
Interest Income	<u><b>\$455.69</b></u>
<b>Funds Available to Date</b>	<b>\$31,792.86</b>
Expenditures to Date	
USGS	<b>\$9,850.00</b>
Lower Big Blue Natural Resources District	<b>\$700.00</b>
Postage/Supplies	<u><b>\$82.43</b></u>
<b>Balance on Hand</b>	<b>\$21,160.43</b>
Estimated Expenditures	
USGS	<b>\$3,370.00</b>
Secretary Honorarium	<b>\$750.00</b>
Secretary Travel Expenses	<b>\$50.00</b>
Dana Cole - Audit	<b>\$700.00</b>
Printing	<u><b>\$150.00</b></u>
<b>Total Estimated Additional Expenses</b>	<b>\$5,020.00</b>
Estimated Income	
Interest Income	<b>\$70.00</b>
<b>Estimated End of Fiscal Year Balance</b>	<u><b>\$16,210.43</b></u>

**KANSAS - NEBRASKA BIG BLUE RIVER  
COMPACT ADMINISTRATION  
REPORT**

**Water Quality Committee  
May 11, 2006**

**BACKGROUND:** In 1995, the Water Quality Committee and affiliated partner agencies and associations began pursuing four (4) primary objectives designed to enhance water quality in the Big Blue River Basin of Kansas and Nebraska. These objectives were to:

- 1) Design, implement, and conduct a basin wide water quality monitoring program;
- 2) Develop and conduct a baseline survey of farm practices utilized in the basin with emphasis on pesticide and nutrient use;
- 3) Develop water quality Best Management Practices (BMPs) and economics support information suitable to the basin; and,
- 4) Initiate and conduct water quality stewardship education and outreach programs in the basin.

Most Water Quality Committee projects are planned and conducted through the use of work groups made up of governmental agency, land grant university and private sector partners. The full committee and affiliated partners meet annually for a review of the status of existing projects and to plan activities for the upcoming year. Typically we hold the annual meeting immediately preceding the annual meeting of the Kansas - Nebraska Big Blue River Compact Administration. Project work groups meet as the need arises. Over the years we have developed an excellent working relationship with most decisions being made by consensus.

**ANNUAL MEETING:** The 2006 annual meeting of the Kansas - Nebraska Big Blue River Compact Administration's Water Quality Committee was held on Tuesday, May 2 from 9:30 a.m. to 2:30 p.m. at the offices of the Lower Big Blue Natural Resource District, 805 Dorsey Street, Beatrice, NE. WQ Committee members present at this year's meeting included Pat Rice (NDEQ), Rich Reiman (NDA), Annette Kovar (NDEQ), Dan Howell (KLR/BAC) and Dale Lambly (KDA). Dan Howell is the newest member of the committee and represents the Kansas Water Office. Other meeting participants included Dave Griffith (NRCS/NDEQ), Dave Clabaugh (LBB NRD), Don Snethen (KDHE), Phil Barnes (KSU), Damon Frizzell (EPA Region VII), Kristie Raymond (EPA Region VII), Craig Romary (NDA), Tom Franti (UNL Extension), Don Adelman (NDNR), Larry Dedic (NE Sorghum Board), Dick Ehrman (NE Assn. of Res. Districts), Steve Walker (NDEQ), Dan Devlin (KSU Research and Extension), Don Jones (SCC), Craig Smith (KSU), Trevar Flynn (KDHE), Jim Krueger (NRCS/KS), Don Vogel (NE Corn Growers Assn.), and Mike Kucera NRCS/NE).

A copy of the meeting agenda is attached in Attachment A. NDEQ, on behalf of the WQ Committee, has received grant funding approval from EPA for water quality work in the basin. Consequently, much of the 2006 annual meeting focused on steps which must be taken to implement activities specified in the grant proposal and to coordinate these activities with other WQ projects and programs in the basin. More details relative to the grant will be provided later in this report.

**Water Quality Monitoring Program Report:** Phil Barnes provided the WQ Committee with a brief update of the water quality monitoring program and sampling locations within the basin. The basin water quality monitoring program was initiated in 1997. In broad terms, there has been a general downward trend in atrazine levels in waters of the Big Blue River system. The time duration in which Tuttle Creek Lake exceeds atrazine TMDL standards has generally been reduced to the May and June period. Data continues to indicate that the major focus for atrazine BMPs should be the four county state line area, with Kansas needing to pay special attention to atrazine contributions arising from an area near and below Marysville.

Last year the WQ Committee was concerned that the monitoring program was nearing the end of available funding. However, the grant recently approved by EPA will allow continuation of water quality monitoring activities, and provides for addition of sediments, nutrients and bacteria to the monitoring program.

**Kansas Tuttle Creek Watershed Sec. 319 Projects:** Don Snethen briefed the WQ Committee on Kansas Tuttle Creek Watershed projects. The majority of these projects are being conducted with Clean Water Act Section 319 funds. Don began by providing a historic overview of atrazine concerns and steps taken to address this issue. He then outlined the Watershed Restoration and Assessment Strategy (WRAPS) process which is underway in various watersheds in Kansas. Relative to the Blue River, KDHE in 2004 provided \$300,000 Section 319 funding to KSU for development of tools and information designed to ultimately support attainment of TMDLs in Tuttle Creek Reservoir. Two primary emphasis areas are: 1) lake and watershed modeling to estimate impacts and make comparisons of various management (BMP) scenarios, and 2) doing "econometric analysis" of various measures so as to identify the most cost-effective management strategies. At this point, a watershed economist has been hired and is on board and a modeler will begin work July 1, 2006.

**Cooperative Blue River Grant Proposal:** Steve Walker provided the WQ Committee with a review of the grant proposal which was recently selected by EPA for funding under their Targeted Watersheds Grants Program. Funds made available total \$810,000. The project is entitled "Tuttle Creek Lake Interstate Targeted Watersheds Grant Project Proposal: A Cooperative Proposal by Tuttle Creek Lake Watershed Partners in Nebraska and Kansas" and is a collaborative effort between the states of Nebraska and Kansas. The proposal was submitted by NDEQ on behalf of the WQ Committee and is designed to address multi-jurisdictional water quality problems including excessive runoff of sediment, nutrients, herbicides and bacteria from the Big Blue River system into Tuttle Creek Lake.

The project is to be of three years duration, and some very aggressive reductions in contaminant loads are set as goals.

The Water Quality Committee owes a large debt of gratitude to Steve Walker for the hard work he has expended in getting the grant package assembled and prepared, and to the Lower Big Blue and Little Blue NRDs for providing the necessary grant match. This was the third attempt made to obtain a grant and the first successful. So, the old adage that "The third time's the charm" appeared to hold true in this case.

The project proposes to demonstrate a process for achieving multi-jurisdictional water quality goals in a large agricultural watershed by targeting and implementing BMPs in critical sub-watersheds and to use grant funds in conjunction with other existing conservation program funds. Several conservation practice types will be potentially funded by this project but the two considered of highest priority are: 1) implementation of continuous no-till systems, and 2) installation of riparian buffer strips. The project focus will be the four county area at the state line and a market-based approach will be used to encourage landowner adoption of practices. In particular, we would like to obtain the interest and support of landowners in the Gage and Marshall County areas. In that regard, the project plans to follow the market-based approach used successfully in the Swan Lake watershed to encourage landowner adoption of BMPs.

A more detailed overview of the project is attached as Attachment B.

**General Discussion of Grant Project and Implementation Needs:** Following presentations, meeting participants held a wide-ranging discussion of steps needed for project implementation and tracking of outcomes. Some key items discussed are as follows:

- Targeting of BMPs – The grant award seems like a large amount of money, but on a per acre basis would mean little, unless devoted to critical loading areas. Also, contaminant reduction goals will not be met unless critical loading areas are addressed. Therefore a serious effort must be made to closely define loading areas and follow up with landowners or managers of those areas. Dave Griffith reported on work he was doing to try to more closely define critical areas needing treatment. He has pulled together mapping layers (ag land, CRP, CREP, slope, other) in an effort to more closely define areas which might need treatment. Dave noted that there are over 200,000 acres which should have streamside buffers within one mile on each side of the river main stem within the critical 4-county area and extending down to Tuttle Creek Lake. Also he suspects that NDA and KDA might be able to assist in the atrazine prevention effort by examining pesticide applicator observance of the 66 foot setback requirements on the product labels.

Jim Krueger noted that NRCS and KSU may be able to provide assistance to the targeting effort. For example sheet and rill erosion modeling tool (SWAT, Soil Water Assessment Tool & AnnAGNPS, Annualized Agricultural Non-Point Source), would likely go a long way toward determining where treatments would give us the most bang for the buck. Don Sneath said that a modeling tool might also help in highlighting areas and maximizing load reductions.

- Incentives - Dan Howell observed that cases may arise where landowners prefer to enroll the whole field rather than just the riparian strip. In some cases, landowners might be willing to go back to grass if they were given assistance with cash-flow for the 2 or 3 year transition period and money for seed.
- Watershed Specialists – Nebraska would need to hire a watershed specialist to carry the program in their portion of the focus area. There are several well qualified individuals (NRCS career interns) in Nebraska who will become available in July. Possibly the Nebraska specialist could be hired as a Lower Big Blue NRD employee and housed in the Beatrice NRCS office.
- Kansas already has a watershed specialist working on their side of the border, but can he handle all of the additional work? KSU and KDHE will develop a work plan to determine the watershed specialist's role relative to this grant and determine proper funding sources. Kansas also has Buffer Coordinators in the two Kansas counties who work with Conservation Districts. We will need to talk with the Conservation Districts and Buffer Coordinators to determine their interest, then likely will put together a team effort.
- Who will serve as the banker? – The Lower Big Blue NRD is willing to serve as-banker for the incentive program and can cut the checks to farmers in both states.
- Dividing the Funding – Dale Lambley asked for a discussion on the division of funds between the two states. He recommended that rather than dividing available BMP funds 50/50 (by state) or 1/3<sup>rd</sup> by 2/3<sup>rd</sup> (by basin proportions) we allow the critical area assessment to be the principal guide to funding. If necessary, this approach can be reviewed again and fine tuned once critical areas have been determined.
- What is the process that is going to be used in working with landowners? Jim Krueger noted that the program processes, in particular the process of interaction with landowners, must be worked out in a step-by-step fashion. Also work must be done to determine the level of financial incentives offered for various BMPs implemented.

- What can be done to minimize the impact on workloads of other conservation agencies? As this grant effort kicks in, workloads at NRCS, FSA, NRD and CD offices will increase. Technical assistance requests at NRCS offices will also increase. It is our intention that watershed specialists in each state will help reduce these workloads by assisting land owners in applying for federal and state conservation programs, including bonus, incentive, rental, and maintenance payments, and cost-share and technical assistance. We cannot simply dump more work on the other agencies without providing support. We also don't want to develop incentives for landowner signups that will place conservation organizations in competition with each other.

**Agencies and Partners Reports:** Mike Kucera said that he would particularly like to follow up on the previous discussion involving NRCS workload issues. Nebraska NRCS is currently strongly engaged with CSP, CREP and EQIP program activities and have about all that their staff can handle. There has been much producer interest, but available funds will not allow all of those interested to participate.

Jim Krueger reported that Kansas NRCS was also extremely busy. In the Big Blue watershed, there are 73 CSP contracts covering 39,000 acres in Washington County along with an additional 177 active EQIP contracts, 71 CSP contracts covering 34,000 acres in Marshall County with an additional 362 active EQIP contracts and a small amount of CSP in Republic County. Jim noted that Marshall County has been one of the heaviest workload counties for Kansas NRCS.

Don Vogel gave an update of the HUSKER F.A.R.M. program which is spearheaded by the Nebraska Corn Growers Association. The HUSKER F.A.R.M. Program is designed to help the producer develop a plan that provides stewardship of land and surface water resources while allowing for efficient and profitable production. Producers completing the program and implementing practices are given recognition. Don noted that a survey had been conducted of Husker F.A.R.M. participants asking what changes had been made in their conservation practices. The survey seems to indicate that approximately 70% have developed a good awareness of stewardship practices.

Trevor Flynn said that Tom Stiles had asked him to advise the committee that the revised atrazine TMDL for Tuttle Creek was in route to EPA. Although total atrazine levels have declined and exceedances have decreased, levels are not yet at the point where the TMDL can be removed.

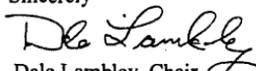
Dick Ehrman gave the WQ Committee an update on the cooperative WQ monitoring projects which are underway in Nebraska. Cooperators include NDEQ, NDA and various natural resources districts. The projects, supported by a grant from EPA with supplemental money from NDA provide equipment and training for NRD offices to conduct surface and groundwater ELISA tests for herbicides and bacterial analysis. All three Big Blue River Basin NRDs are participants in the program and now have the capacity to conduct these analyses.

Craig Romary reported that the Nebraska Buffer Strip program continues to be very popular. This is a program supported by state pesticide product registration dollars. Many of the program funds are going to irrigated crop land and practices are being done in conjunction with the CRP program. The lower portion of the Big Blue River Basin in Nebraska is receiving a significant part of the funds.

Craig also reported that the state's pesticide act had been updated. The new revisions may give NDA more authority to regulate pesticides and pesticide use. Craig also noted that NDA and KDA may be able to help obtain more information on amounts of fertilizer and pesticides used in the four county focus area.

Rich Reiman discussed the Nebraska Waste Pesticide Collection Program. NDA has orchestrated 9 collection programs over the last 12 years. During that time, 2.2 million pounds of waste pesticides have been collected. Of this amount, 550,000 pounds have been collected in the Big and Little Blue River watersheds.

Sincerely

A handwritten signature in cursive script that reads "Dale Lambley".

Dale Lambley, Chair  
Water Quality Committee

**Water Quality Committee Report  
Attachments**

## Agenda

### Big Blue River Compact Water Quality Committee Meeting

May 2, 2006 – 9:30 a.m. to 2:30 p.m.  
Lower Big Blue NRD Office, Beatrice, NE

- I. Roundtable Introductions
  
- II. Update on WQ monitoring program – Phil Barnes (10 min.)
  
- III. Update on Kansas Blue River 319 projects – Don Snethen (30 min.)
  
- IV. Outline/Review of Tuttle Creek Lake Targeted Watershed Grant Project  
– Steve Walker (60 min.)
  
- V. Open Discussion: Next steps/What do we need to do next now that we  
have been awarded the targeted watershed grant?

Lunch Break: 11:30 a.m.

1:00 p.m. – continuation of Next Steps discussion (45 min.)

VI. Agencies & Partners Reports

Proposed adjournment at 2:30 p.m.

# Big Blue River/Tuttle Creek Lake Interstate Targeted Watershed Project - Nebraska and Kansas

## Mission:

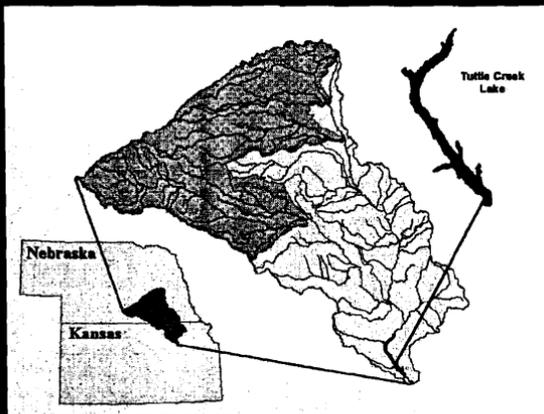
Demonstrate a process for achieving water quality goals in a large interstate agricultural watershed using watershed partnerships and an incentive-based approach for implementing best management practices in critical sub-watersheds

## Goals:

- ★ Reduce sediment, nutrient, herbicide, and bacteria runoff to surface waters in the Big Blue River Watershed
- ★ Install continuous no-till farming systems, riparian buffer strips, and other best management practices

## Features:

- ★ Award of EPA Targeted Watersheds Grant for \$810,000 and local pledge of \$300,000 in nonfederal services-in-kind
- ★ Collaboration with federal, state, local, and private conservation programs and integration of multiple funding sources
- ★ Local decision-making through a community-based planning approach
- ★ Unique, collaborative incentive-based approach for landowner adoption of best management practices



- ★ Landowners will be involved in negotiations for cost-share assistance and rental, incentive, and maintenance payments for installing best management practices on their land
- ★ Incentive payments will be offered for plantings of specialty forest products such as fruit and nut trees, woody decorative florals, and plants used in food and herbal health supplements in riparian buffer strips

For More Information Contact: Steve Walker, NDEQ,  
402-471-4227 Email: [steve.walker@ndeq.state.ne.us](mailto:steve.walker@ndeq.state.ne.us)

## **Big Blue River/Tuttle Creek Lake Watershed Partners**

- Governor of Nebraska
- Governor of Kansas
- Nebraska Department of Environmental Quality
- Kansas Department of Health and Environment
- Nebraska Department of Agriculture
- Kansas Department of Agriculture
- Lower Big Blue Natural Resources District
- Little Blue Natural Resources District
- Upper Big Blue Natural Resources District
- University of Nebraska-Lincoln – Cooperative Extension
- University of Nebraska-Lincoln – Biological Systems Engineering
- University of Nebraska-Lincoln – Gage County Cooperative Extension
- Kansas State University – Cooperative Extension
- Kansas State University – Biological and Agricultural Engineering
- Kansas Water Office
- Natural Resources Conservation Service – Nebraska State Office
- Natural Resources Conservation Service – Beatrice Field Office
- Natural Resources Conservation Service – Nelson Field Office
- Nebraska Corn Growers Association
- Kansas Corn Growers Association
- Kansas Grain Sorghum Producers Association
- Nebraska Grain Sorghum Producers Association
- Kansas Natural Resources Sub-Cabinet
- Kansas Cooperative Council
- Kansas Farm Bureau
- Kansas State Conservation Commission
- Nebraska Chapter Soil & Water Conservation Society
- Nebraska Game and Parks Commission
- Nebraska Department of Natural Resources
- National Park Service – Homestead National Monument of America
- The Groundwater Foundation
- Syngenta Crop Protection

# Nebraska Team Members

- Lower Big Blue Natural Resources District
  - Dave Clabaugh
- Little Blue Natural Resources District
  - Mike Onnen
- Nebraska Department of Environmental Quality
  - Steve Walker
- Nebraska Department of Agriculture
  - Craig Romary
- University of Nebraska-Lincoln – Biological Systems Engineering
  - Tom Franti
- University of Nebraska-Lincoln – Gage County Cooperative Extension
  - Paul Hay or Larry Germer
- University of Nebraska-Lincoln – Saline County Cooperative Extension
  - Randy Pryor
- Natural Resources Conservation Service – Nebraska State Office
  - Dave Griffith
- Natural Resources Conservation Service – Gage County
  - Wally Valasek
- Natural Resources Conservation Service – Jefferson County
  - Janet Valasek
- Nebraska Grain Sorghum Producers Association
  - Greg Peters
- Nebraska Corn Growers Association
  - Don Vogel?
- EPA Region 7
  - Damon Frizzell

# Kansas Team Members

- Kansas Water Office
  - Tracy Streeter or Kerry Wedel
- Kansas State Conservation Commission
  - Greg Foley or Don Jones
- Natural Resources Conservation Service – Marshall County
  - Daniel Faulkner
- Natural Resources Conservation Service – Washington County
  - Dee Minge
- Kansas State University – Cooperative Extension
  - Dan Devlin
  - Mike Christian
- Kansas State University – Biological and Agricultural Engineering
  - Phil Barnes
- Kansas Corn Growers Association
  - Jessica Baetz Caylor
- Kansas Grain Sorghum Producers Association
  - Jessica Baetz Caylor
- Kansas Department of Agriculture
  - Dale Lambley
- Kansas Department of Health and Environment
  - Ron Hammerschmidt, Tom Stiles, or Don Snethen
- EPA Region 7
  - Damon Frizzell

# BACKGROUND

- Tuttle Creek Lake is a 14,000 acre impoundment located in northwest Kansas near Manhattan
- Large agricultural watershed area containing 9,628 square miles with about 75% of the watershed in Nebraska
- Built in 1962 for flood control, irrigation, water supply, recreation, fish and wildlife, low flow augmentation, and navigation flow supplementation
- Provides up to 50% of the flow of the Kansas River which serves as a public drinking water source for Kansas City, Topeka, and Lawrence

# BACKGROUND

- 72% of land area is in corn, grain sorghum, or other crops, 10% in pastureland, and 10% in woodland
- Herbicides are used extensively throughout the watershed to control agricultural weeds
- Long-term mean annual precipitation and topography vary significantly from 22 inches and 1% slopes in the northwest to 34 inches and >10% slopes in the southeast
- Silty-clay loam soils have moderate to very high potential of transporting contaminants to surface waters

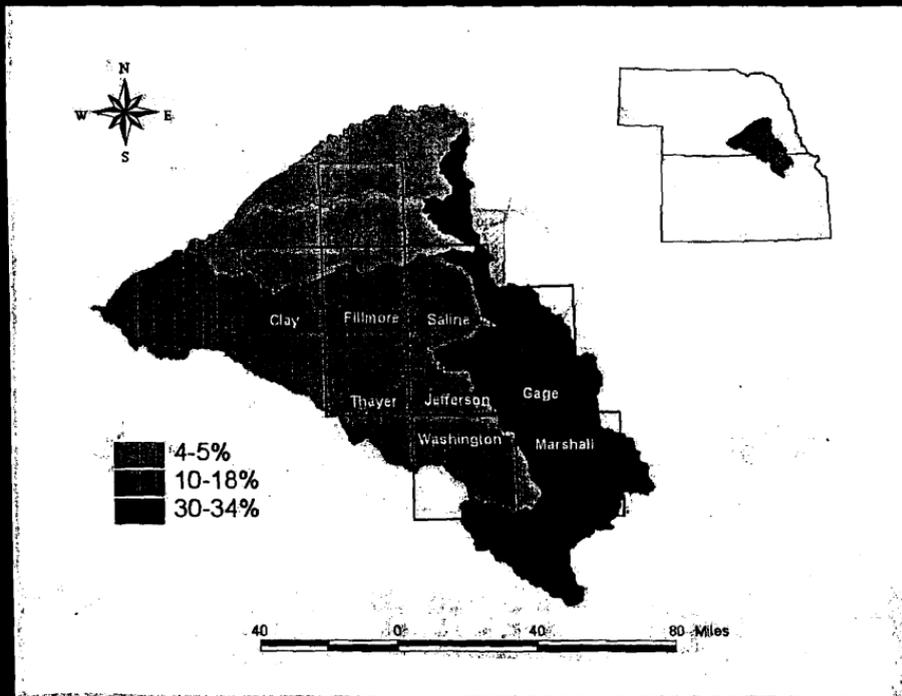
# WATER QUALITY PROBLEMS

- Tuttle Creek Lake in Kansas: atrazine, alachlor, sedimentation, and eutrophication
- Swan Creek Lake 5A in Nebraska: atrazine, nutrients, pH, and Toxic Algae
- Segments of the Big Blue River and Little Blue River in Nebraska and Kansas, and Horseshoe Creek and the Black Vermillion River in Kansas: fecal coliform or E. coli bacteria
- Segments of the Big Blue River and its tributaries (Big Indian Creek, Turkey Creek, Beaver Creek) in Nebraska: atrazine and selenium

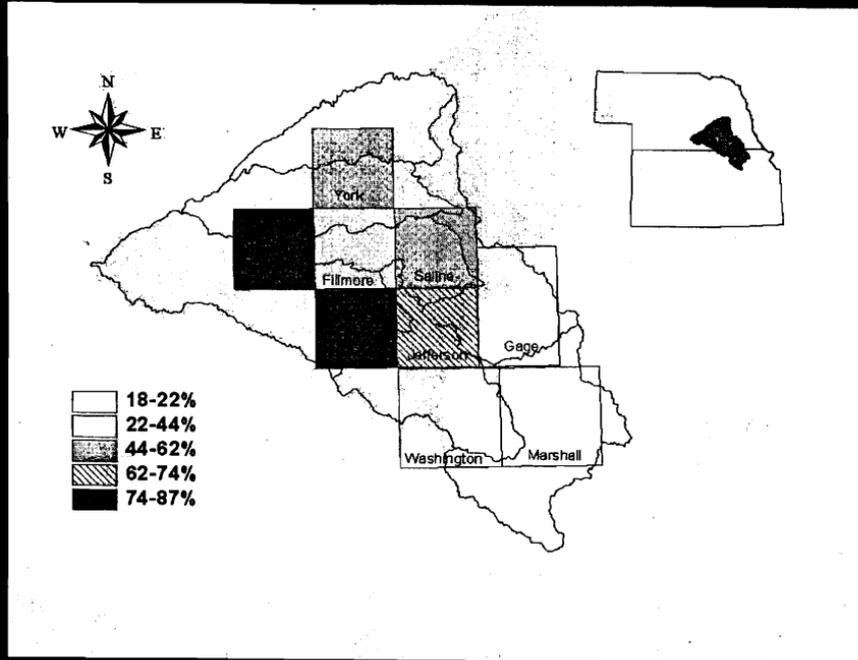
# SEDIMENT ACCUMULATION IN THE CONSERVATION POOL OF TUTTLE CREEK LAKE



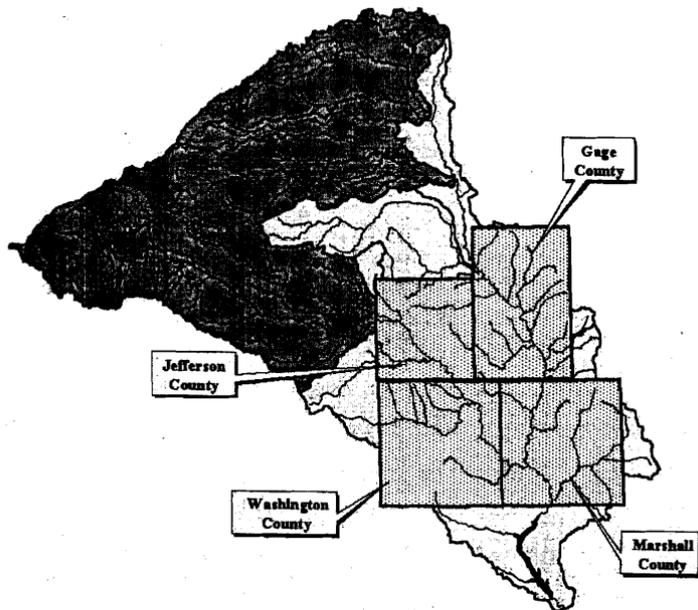
# PERCENTAGE OF HIGHLY ERODABLE LAND DUE TO WATER (NRCS, 1997)



# PERCENTAGE OF LAND WITH CONSERVATION TILLAGE PRACTICES (NRCS, 1998)



# CRITICAL FOUR-COUNTY AREA



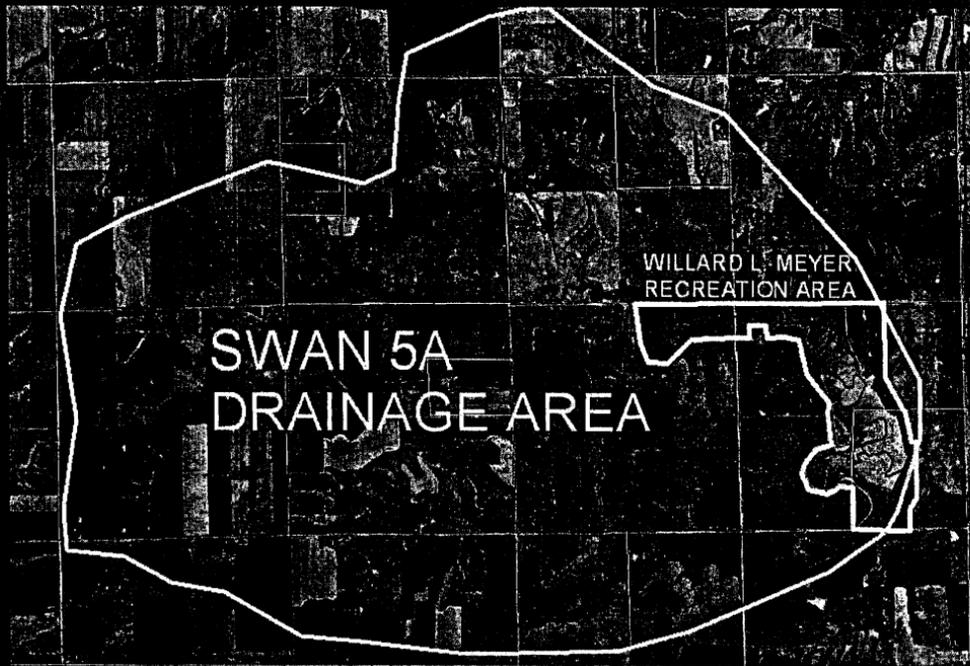
# PROJECT APPROACH

- Build upon more than 10 years of cooperation between Nebraska and Kansas agencies and organizations
- Collaborate with existing conservation programs (e.g. NRCS EQIP, FSA CRP) and model project after other successful projects (e.g. Swan Creek Lake 5a)
- Target TWG funds in four-county critical area of nonpoint source runoff
- Use TWG funds to provide additional incentives to landowners for conservation practice signups and contract extensions
- Hire watershed coordinators in each state to meet one-on-one with landowners
- Form local coordinating committees, use community-based planning approach, and let landowners negotiate for the cost-share and incentives they need to participate in the project

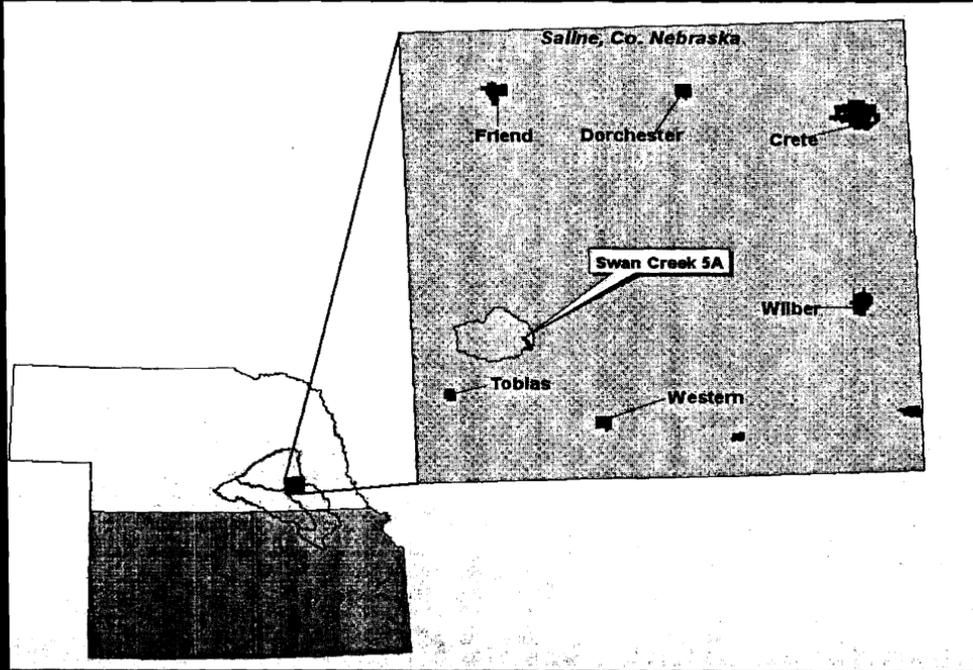
# **ASSISTING LANDOWNERS AND FEDERAL AND STATE CONSERVATION PROGRAMS**

- Workloads at NRCS, FSA, NRD, and CD offices will increase
- Technical assistance requests at NRCS offices will increase
- Watershed specialists in each state will help reduce NRCS, FSA, NRD, and CD workloads by assisting landowners in applying for federal and state conservative programs, including bonus, incentive, rental, and maintenance payments, and cost-share and technical assistance

# SWAN CREEK LAKE 54 DRAINAGE AREA



# LOCATION OF SWAN CREEK LAKE 5A PROJECT IN THE BIG BLUE RIVER BASIN



## SWAN CREEK LAKE 5A PROJECT ACCOMPLISHMENTS

- Cropped Acres in Watershed: 2,399 (100%)
- Cropped Acres under No-Till: 1,550 ( 65%)
- Cropped Acres under Nutrient and Pesticide Management: 1,550 ( 65%)
- Cropped Acres in Terraces: 540 ( 23%)  
(29,345 Linear Feet)
- Landowners/Operators in Watershed: 43
- Landowners/Operators Participating in Project: 35
- NRCS EQIP Contracts Approved: 20
- New or Rehabilitated Sediment Basins: 16
- Wells Decommissioned: 15
- Septic System Improvements: 6

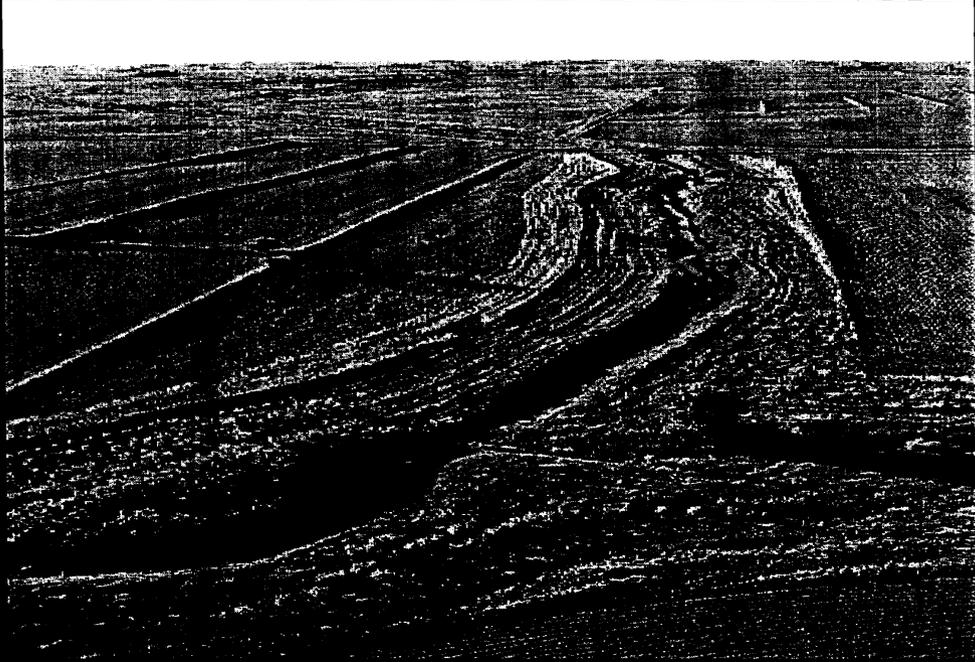
# PRELIMINARY PROJECT GOALS

- Reduce average sediment "delivery" rate to Tuttle Creek Lake in tons per acre by 25%
- Reduce the average phosphorus "delivery" rate to Tuttle Creek Lake in pounds per acre by 20%
- Reduce atrazine and alachlor concentrations in Tuttle Creek Lake to below 3 ppb and 2 ppb, respectively, at all times
- Continuous no-till farming systems for up to 50 landowners
- 1,000 linear miles of additional riparian buffer strips
- Nutrient and pesticide management plans for up to 25 farms or ranches
- Installation of streambank stabilization practices for up to 25 landowners
- Restore up to 25 riparian wetlands
- Maintenance payments for up to 25 landowners for reconditioning existing conservation practices
- Installation of fencing, alternative off-stream watering sites, portable shelters, or stabilized stream watering points for livestock for up to 25 landowners
- Plantings of recommended specialty forestry products in riparian buffer strips by up to 25 landowners
- Conduct a minimum of 5 on-farm or field day demonstrations of conservation practices and provide seminars about eligible conservation practices to 150 or more landowners

## CONTINUOUS NO-TILL FARMING SYSTEMS

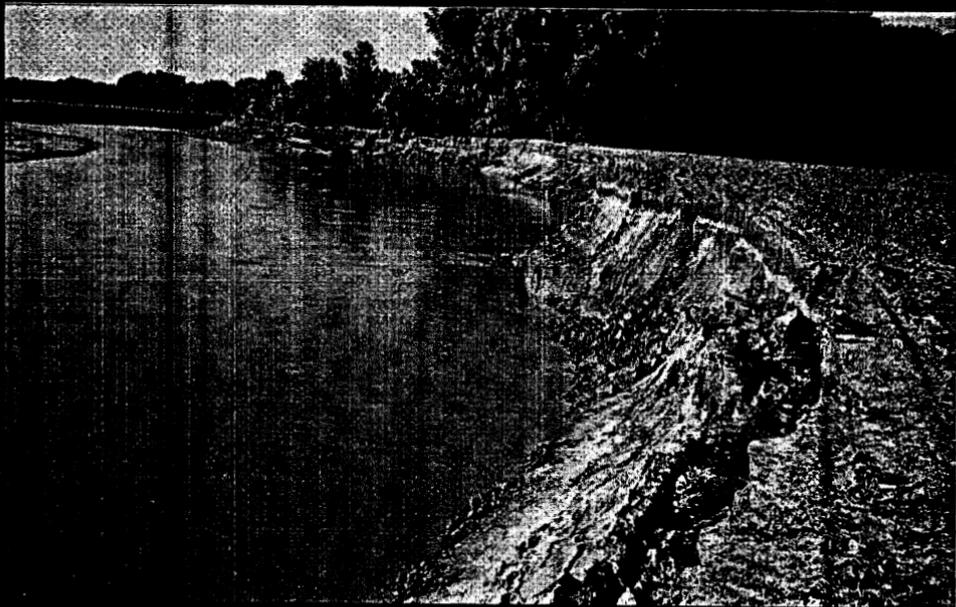


## RIPARIAN BUFFER STRIPS



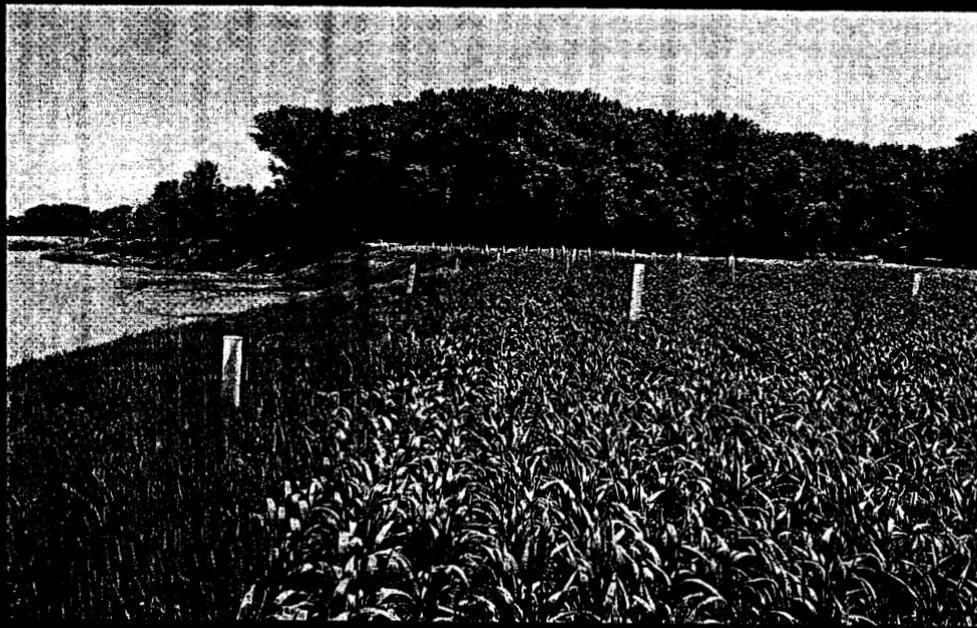
# STREAMBANK STABILIZATION

BEFORE

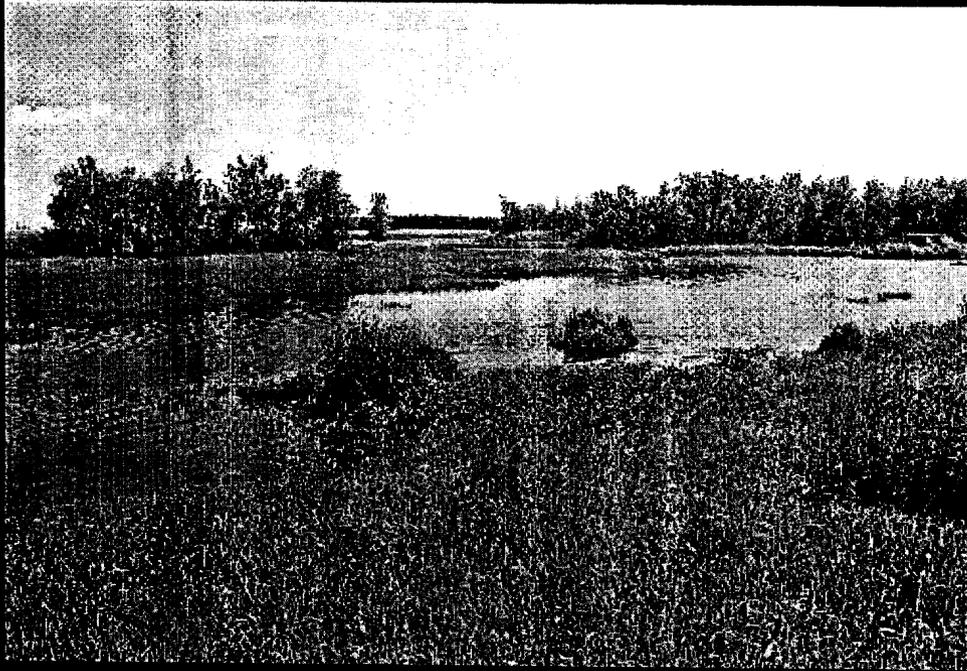


# STREAMBANK STABILIZATION

AFTER



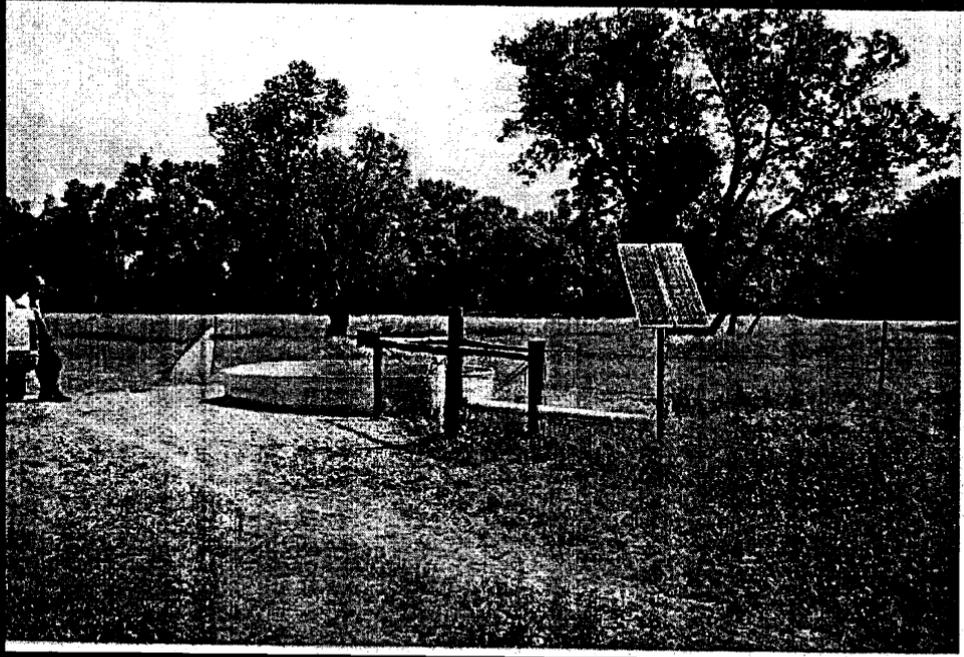
# RIPARIAN WETLAND RESTORATION



# FENCING TO EXCLUDE LIVESTOCK FROM STREAMS



## ALTERNATE WATER SUPPLY FOR LIVESTOCK



# COLLABORATIVE PROGRAMS AND FINANCING

- Targeted Watersheds Grant \$810,000
- Nonfederal Matching Funds \$300,000
- Lower Big Blue Natural Resources District
- Little Blue Natural Resources District
- Nebraska Department of Agriculture
- University of Nebraska-Lincoln Cooperative Extension
- USDA-NRCS
- USDA-FSA
- KDHE Section 319 SWAPS Program
- Kansas State Conservation Commission
- Marshall County Conservation District
- Washington County Conservation District
- Kansas State University Cooperative Extension

# OUTREACH ACTIVITIES

- Develop brochures about project and cost-share assistance/incentives offered for landowners
- Publicize project through articles in local newspapers, farm magazines, and agricultural newsletters; radio, TV
- Hold large group informational meetings. Solicit volunteers for local coordinating committees
- Hire Watershed Specialist for Nebraska (office at LBBNRD?).
- Begin community-based planning approach, hold small group local coordinating meetings, refine goals, develop cost-share/incentive packages for landowners, and develop watershed management plans in Nebraska and Kansas
- Watershed Specialists will visit one-on-one with landowners and assist them in signing up for conservation practices
- Develop quarterly progress reports for EPA
- Develop annual progress report for EPA Targeted Watersheds Program
- Annually attend Targeted Watersheds Grant Conference
- Conduct on-farm and field day demonstrations about conservation practices

# MEASURING SUCCESS

- Water quality monitoring of herbicide, nutrient, sediment, and bacteria concentrations and loadings (weekly, monthly, and runoff events)
- Water quality modeling to determine predicted reductions in sediment, nutrients, and herbicides using RUSLE, SWAP, and StepL after BMPs are installed
- Reduce the amounts of fertilizers and herbicides sold and the pounds per acre applied
- Track the numbers and locations of all BMPs installed

# NEXT STEPS

- Modify project plan to include a revised budget and table showing work tasks, deadlines, assignments, and deliverables
- Develop cooperative agreements with Kansas State University and Lower Big Blue NRD
- Transfer majority of TWG grant to LLBNRD through a subgrant
- Hire Watershed Specialist for Nebraska (office in Beatrice?)
- Began outreach activities
- Develop collaborative monitoring project plan and initiate monitoring
- Document all expenditures and use reimbursement method for all payments to landowners (contracts, invoices)

**BLUE RIVER BASINS FLOW AUGMENTATION STUDY**

**Purpose**

The purpose of this study is to examine water availability and needs for the Kansas – Nebraska Big Blue River Compact, determine the value of augmentation water and identify and conduct a preliminary analysis of potential sites to meet augmentation needs.

**Objectives**

1. Determine the total annual augmentation water needed (acre-feet) in order to meet the state-line targets for both the Big Blue and Little Blue Rivers.
2. Determine the value (dollar/acre-foot) of the augmentation water to the junior irrigators in Nebraska and to the water users in Kansas junior to the MDS flows (which are the same as the compact state-line target flows).
3. Describe the legal issues that would need to be addressed in order to put in place a flow augmentation system.
4. Identify and conduct a preliminary analysis of potential sites to meet flow augmentation needs. This should include a very rough analysis of the potential cost per acre-foot of water and a description of potential project benefits other than flow augmentation for the compact.

**Draft Schedule**

March 29, 2006	-	Draft Purpose, Goals and Objectives Distributed
June 30, 2006	-	Parts I (Background) and II (Data Collection & Analysis) Completed
Oct. 1, 2006	-	Part IV (Legal) Completed
Jan 31, 2007	-	First Draft Part VI (Alternative Actions & Analysis) Completed
Feb 15, 2007	-	First Draft Report Completed – Internal Review & Revision Begins
March 15, 2007	-	Internal Revision Completed – External Review Begins
May 15, 2007	-	Review of Draft Report Completed – Report Finalized
June 15, 2007	-	Final Report Printed and Distributed